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THE AIR AS A VEHICLE OF INFECTION

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From time immemorial, and until a very recent period, the air has been considered the chief vehicle of infection. It was certainly so when I became health officer thirty years ago. In Parke's "Hygiene," the standard sanitary text-book of the time, and in the edition of 1883, malaria and yellow fever were considered typical air-borne diseases. Typhoid fever was also said to be largely air-borne as was cholera and dysentery and the diarrheal diseases, and sewer air was alleged an important factor in their production. Typhus fever was thought to be spread by means of a vitiated atmosphere, as was also Oriental plague. My immediate official predecessor, Dr. Snow, a distinguished sanitarian of the time, considered scarlet fever only slightly contagious, but due to some epidemic influence, meaning thereby some general infection of the atmosphere. The late Dr. Janeway of this city taught me that the old water-courses of New York could be traced by the excess of diphtheria in the houses along them, due to the effluvia from the damp and infected soil. The well-nigh universal confidence in the phenolized sheet before the door and the saucer of chlorinated lime in the room as barriers against contagion, illustrate how much the air has been feared.

A great change has taken place within recent years in the attitude of scientific men toward the theory of aerial infection. Many diseases formerly considered air-borne have been shown to be transmitted invariably in other ways, and in others the rôle of infection by air has been shown to be much less important than was formerly believed. Some former theories of the mechanism of transmission by means of the air have been found to be untenable and some of the alleged facts of such transmission have been subjected to much criticism. Perhaps the best manner of setting forth present-day facts and ideas is to follow in a general way the course of their discovery and development.

While there have always been some careful observers, as Richard Mead in the eighteenth century and William Budd in the nineteenth, who doubted the supreme importance of aerial infection, the first effective questioning came from the laboratory. The discoveries of Pasteur and the work of Lister encouraged the current views, as it seemed that such minute forms as bacteria could readily float in the air and the difficulty of explaining how they get into the air from infected materials did not at first seem to be appreciated, for it was assumed, with little thought, that they were freely given off from feces, urine and other discharges and particularly that they were contained in the expired breath. The investigations of Nägeli, Buchner and others, in the late seventies of the last century, demonstrating that bacteria are not given off from moist surfaces and liquids in a state of rest, were disturbing to the old theories.

Lister had recognized the power of the respiratory passages to ensnare the bacteria of the air, though Tyndall was the first to demonstrate the fact that the expired air is sterile, a demonstration which was substantiated by many other observers. But so firmly intrenched were the ideas as to the air carriage of disease that other explanations were sought. This seemed to be especially necessary, as at about this time Koch published his discovery that tuberculosis is a contagious disease due to a bacillus. The fact that in most cases the seat of the lesion is in the lungs seemed to require an air-borne and respiratory origin.

The resistance of bacteria to drying and their transmission on small particles of floating dust were eagerly seized on as an explanation, and the authority of Koch, who urged this as a usual mode of infection in tuberculosis, did much to encourage a decided fear of dust as a vehicle of infection. The investigations by Cornet, in 1885, on the presence of tubercle bacilli in dust greatly increased the fear of dust infection, though Cornet's experiments are really a demonstration that even so resistant and common a bacillus is far from ubiquitous.

A vast amount of work has been done to determine the resistance of different kinds of bacteria to drying and their vitality in dust. The factors affecting the life of pathogenic micro-organisms outside of the body are so numerous that it is not surprising that quite discordant results have been obtained by different observers. Certain it is that some bacteria, as those of cerebrospinal meningitis, gonorrhea and influenza, die so quickly that their carriage on dust is practically impossible. On the other hand, the resistance of tubercle, typhoid and diphtheria bacilli is sufficient to admit of their floating on dust particles. On account of the mechanical obstacles in the way of explaining how substances so difficult to reduce to fine dust as feces and sputum could be dust-borne, other modes of infection were sought for, and in 1897, Flügge showed that infecting bacteria could be carried in the fine droplets of saliva which are thrown from the mouth during loud talking or coughing, but which are absent during quiet respiration. It had previously been shown that bacteria-holding droplets could be thrown into sewer air by the agitation of sewage, and this experimental work had perhaps suggested that similar droplets of saliva might be a means of spreading disease from person to person. The followers of both Cornet and Flügge inferred much

more from the work of these investigators than was warranted, or than was claimed by the authors themselves. Because Cornet's guinea-pigs could become infected by clouds of tuberculous dust, and Flügge's pigs contracted tuberculosis when held a short distance in front of a coughing consumptive, one is not warranted in assuming that either dust or droplets are, under natural conditions, the chief mode of infection in tuberculosis, and there is still less warrant for such an assumption for other diseases. There is still less reason for assuming that because bacteria are observed to fall on agar plates from the air of a room the air is infectious, and no reason at all for the assumption that because a few diphtheria or tuberculosis germs survive drying for three or four weeks, diphtheria or tuberculosis are dust-borne diseases.

The question of dosage in causing disease is an all-important one, though it has usually been neglected in bacteriologic work on aerial infection. Winslow, however, appears to have fully recognized the importance of quantitative work, and his careful and extensive experiments on sewer air and on dust and the air of schools and dwellings has served to explain much of the contradictory work of others and to bring bacteriologic and clinical observation in accord. Winslow's first quantitative work was on sewer air. In 1907 careful experiments were made by Winslow in this country and by Horrocks at Gibraltar. The latter succeeded in recovering colon and also typhoid bacilli from the soil pipes of the barracks under quite natural conditions, and, though the number was not determined, he was believed by many to have thus demonstrated the dangerous character of sewer air. The number found by Winslow was so small that he deemed it necessary to make further observations. In nearly 200 liter samples of air from the soil-pipes of various buildings in Boston, he found sewage bacteria only four times, and only when there was splashing of sewage at the place and moment of examination. In such air as would be likely to escape from a drainage system, either from the vent-pipe or from an opening into a house, such bacteria were never found. Under ordinary circumstances, pathogenic bacteria, such as the typhoid or dysentery bacillus, must be far less numerous than are colon bacilli. The entire absence of the latter from 193 liters of sewer air, taken elsewhere than in the immediate vicinity of splashing, shows how slight must be the danger from this source, but perhaps this is best shown by a comparison given in Winslow's own words:

> In a surface water of good quality, like that of New York City, the colon bacillus can almost invariably be isolated from 10 c.c. This means a slight degree of intestinal pollution, but experience has shown that the chance of infection from such a water is but slight; and we drink it without serious alarm. If one were to breathe for twenty-four hours the undiluted air of a house-drainage system, at any point not immediately infected by mechanical splashing, it appears that less than fifty intestinal bacteria would be taken in; for the daily consumption of air is about 10,000 liters, and in 200 liters I obtained negative results from air of this sort. In drinking New York water twice as many colon bacilli are ingested every day, for 1,000 cm. is a small amount for daily consumption. So there would be less danger of contracting disease from continually breathing the air of a vent-pipe, or of a soil-pipe, except where liquid is actually splashing, than from drinking New York water.

Later, experiments were made by Winslow and Robinson to determine the extent to which general air infection in an apartment is caused by droplet infection. Out of 140 liters of air taken at various points in the room immediately after from ten to fifty minutes' loud speaking by a person whose mouth was infected with *B. prodigiosus*, the bacillus was found seven times. Of 74 liters examined for *Streptococcus salivarius*, none were found to contain this normal inhabitant of the mouth. The authors consider that an artificial infection of the mouth may give too high an index of air contamination, while the normal germs of the mouth may be thrown off in smaller numbers than are the disease germs from sick persons. The authors conclude that these experiments furnish "no basis for a belief that tuberculosis or any other disease is contracted to appreciable extent through the inspired air" and are "in harmony with the conviction now generally gaining ground that aerial infection of any sort is a minor factor in the spread of zymotic disease."

Still more recently Winslow has made quantitative studies of acid-forming streptococci in New York City schools. He says:

> It is well established that acid-forming streptococci are among the most abundant forms in the human mouth, while they are absent from sources which have not recently been exposed to human or animal pollution. The numbers of these organisms in schoolroom air were found by Professor Baskerville and myself in preliminary experiments a year ago to be quite small. We then found among 30,000 colonies isolated from 750 plates, exposed in schools with window ventilation, only ten mouth streptococci.
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> In the present study in the examination of a total of 868 cubic feet of air, we found fifty-two mouth streptococci, or six for every 100 cubic feet of air.
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> A child breathes less than 100 cubic feet of air during an average school period and these mouth streptococci must, of course, be far more abundant than pathogenic forms. At a rate of four or five mouth streptococci per day the chance of ingesting pathogenic bacteria from the air is seen to be a very slender one.

Although Winslow found so few of the bacteria of human saliva in the air of schoolrooms, on another occasion in various schools in this city he found them in dust in enormous numbers, even up to 100,000 in a single gram. This shows that the presence of germs in indoor dust, representing, as it does, long-continued precipitation, is no indication of the number floating in the air, and it indicates the worthlessness of the deductions which have often been made as to the danger of air-borne infection, from the mere demonstration of the presence of disease bacteria in dust.

While bacteriology has given us facts instead of theory as to disease causation and has made it science of sanitation, bacteriology alone cannot solve all our problems. The study of micro-organisms, pathologic findings, animal experiment and epidemiologic observations, must all be utilized and harmonized to solve the problems of disease transmission. It is for us to trace the effect which modern research has had on the old belief that practically all the infectious diseases are air-borne.

TYPHOID FEVER

Largely owing to the great authority of Murchison, it came to be believed, shortly after the middle of the last century, that the chief cause of typhoid fever was the effluvia from decomposing animal matter. When the late King Edward VII, then Prince of Wales, contracted a severe attack of this disease at Sandringham in 1871, the chance escape of sewer gas into his apartments was by every one considered a sufficient explanation of the case. Like others, I was at first possessed

by the sewer-gas bogey, but failure to connect cases with this alleged cause began to undermine my faith. The discovery of the typhoid bacillus and more careful epidemiologic study soon determined that the greater outbreaks were usually due to infected milk, or other foods, and it came to be seen that the smaller groups and isolated cases could best be explained by contact infection. Finally, the carrier has been shown to be the link between hitherto unconnected cases. No form of air infection (except dust) has been alleged as a cause of typhoid fever for many years, and the reports of outbreaks of dust-borne typhoid fever in the Spanish and Boer wars and in India are based on the flimsiest evidence.

It is a common experience that typhoid fever is freely treated in the general wards of a hospital and that it rarely indeed extends to other patients, although these patients are breathing the air of the ward, perhaps for weeks at a time. It is not so very rare for the nurses of these typhoid cases to contract the disease, though with the development of aseptic nursing such infections are much less frequent than formerly. The only inference is that this disease is not air-borne in hospital wards, but is spread solely by contact.

CHOLERA, DYSENTERY AND DIARRHEA

Cholera, dysentery and diarrhea were, with typhoid fever, considered to be spread largely by means of air polluted by the discharges of patients. The discovery and study of the micro-organisms causing these diseases, and modern epidemiologic and preventive work, have shown the part played by water, food, contact, flies and carriers, and little room is left for the action of air infection. All of these diseases can be treated in general hospitals freely, without danger of extension to other patients. It has occasionally been alleged, especially in England, that summer diarrhea may be dust-borne, but no more than the seasonal distribution, in the drier months, can be adduced as evidence. Laboratory work, when conducted along quantitative lines, as carried on by Winslow, bedside observations and broad epidemiologic studies, are all in accord in denying to the air any part in the extension of this important group of excrement-borne diseases which only a few years ago we believed might be caused by a whiff of sewer air.

ASEPTIC SURGERY

One of the most interesting changes which has taken place in our conception of the part played by the air as a bearer of infection concerns aseptic surgery. When one considers the origin of modern surgery, one is not surprised at the emphasis which was at first placed on air-borne infection. The researches of Schwann, Pasteur, Tyndall and others on spontaneous generation, putrefaction and fermentation largely consisted of experiments showing that when micro-organisms floating in the air are excluded, putrefaction and fermentation do not take place. The admission of almost any air was found to give rise to the growth of bacteria and the occurrence of changes in the liquids under observation. We all know with what wonderful intuition Lister perceived the likeness of sepsis and suppuration to putrefaction and fermentation. His assumption that the former processes are due to the action of bacteria was, after the course of many years, abundantly verified. Lister's brilliant success in preventing sepsis and suppuration in wounds by destroying the infecting bacteria *in situ* or preventing their ingress was truly marvelous and could have been accomplished only by a man of surpassing imagination and inventive genius. Not only has the principle on which he worked been established, but much of the detail worked out by him remains fundamental in surgical practice to-day. Perhaps the greatest change concerns our view as to the infection of wounds from the air. In the beginning the air was considered the chief source of infection. This was perfectly natural and reasonable in the state of knowledge at the time. The work of Pasteur and Tyndall had shown the ubiquity of putrefactive bacteria and their almost universal presence in the air. Nothing was known of the great variety of bacterial species, or of the numerous influences hostile to bacterial life, or of the difference between spores and vegetative forms, or of the great differences in the resisting power of different species. It had been demonstrated that the admission of ordinary air to the test-tube always caused putrefaction; what more natural than to assume that the admission of air to wounds carried with it the germs of suppuration and that its exclusion was a necessity?

The paramount importance attributed to air infection in surgery is well illustrated by an incident of my intern days at Bellevue Hospital. The first strictly aseptic operation in the wards to which I was assigned, was to be undertaken. The room was washed with phenol, the dressings and instruments were sterilized, as were the body of the patient and the hands of the operator; caps and gowns were worn by all. What was considered perhaps the chief antiseptic service was to be performed by the intern, who arose at an early hour of the summer morning to start the phenol spray which was to disinfect the atmosphere, and which was kept going until the end of the operation. During the operation the surgeon dropped his knife on the floor. He picked it up, wiped it on his gown and continued his work. The incident attracted little notice and caused no comment. Such was the relative importance attributed to contact and air infection in those days. To-day, I think Ochsner reflects the best surgical opinion when he says: "Air infection is not impossible, but practically no wound infection is to be considered except from contact." It is true that most surgeons, at least during abdominal operations, guard against infection by mouth spray, but infection by visible droplets, from every practical point of view, resembles infection by direct contact, and is entirely different from the general infection of an apartment by invisible floating droplets.

Although effort is made to have the air of the operating-room, as all else in it, as clean as possible, surgeons do not hesitate to operate, and do operate with success, in the air of the tenement, which is far from dust-free. In fact, the air of even the operating-room does contain pus germs. Many observations have been made, both in Europe and in this country, on the presence of pus-forming bacteria in such situations, and they are practically always found to be present, appearing, often in very considerable numbers, on the agar plates exposed for their collection. Thus Harrington found in Boston operating-rooms a maximum of 131 colonies per square inch per hour. That such a number of bacteria are but rarely, if ever, capable of infecting a wound doubtless seems surprising to many. That they do not is due, doubtless, partly to the fact that, though still capable of growing on culture medium, their virulence is diminished by drying and exposure to light, and partly by their small number. That the chance of infection depends on the dosage

is now an established fact, shown both by animal experiment and clinical observation. That a single germ will cause disease is a myth of the early days of bacteriology. Many, many germs are usually necessary, the number doubtless varying greatly with their virulence, with the species, with the nature of the disease process and with the mode of infection. That numerous living pus-forming bacteria floating in the air fail to infect when falling on the fertile soil of freshly cut tissues or exposed peritoneum should make us scrutinize closely the claim often made that pathogenic bacteria, more sparsely distributed still, can run the gauntlet of the respiratory passages and penetrate mucous surfaces, or reach and infect pulmonary alveoli, or pass thence into the blood-stream. It is not the mere presence of germs but their quantity that counts.

MALARIA AND YELLOW FEVER

Fifteen years ago malaria was considered a perfect example of an exclusively air-borne infectious disease and the virus of yellow fever was thought to be spread chiefly in the same way. It needs no reference of mine to call to your minds the brilliant work of Manson, Ross, Celli, Reid, Carroll and Gorgas which removed these from the list of the air-borne diseases, and, neglecting all modes of infection but the mosquito, stamped out the scourges in their strongholds.

TYPHUS FEVER

Most of you have doubtless seen the tablet in Bellevue Hospital on which are inscribed the names of the six interns who died of typhus fever in the outbreak of 1863-4. Of twenty-one members of the staff sixteen contracted the disease; an impressive record of its contagiousness in those days. That this contagiousness was due to the concentration of the virus in the atmosphere of the hospital was the universal belief of fifty years ago. We can to-day scarcely appreciate the heroism of the young men of those days, who, certain in their own minds of the infection of the air, without thought of themselves, breathed it all day long in the wards while ministering to the afflicted. Until within a few short years ago this belief prevailed, for we find typhus fever classed as an air-borne disease by Ker in 1909, in what is perhaps the best text-book we have on the infectious diseases. Nevertheless, careful observers had begun to note that typhus fever was not as readily transmitted in modern hospitals as it was in crowded prisons and ships or in the Bellevue Hospital of old days. Thus six hundred cases were treated in the City Hospital, Liverpool, without a single case of hospital infection. Wilder says that in the American Hospital in Mexico 144 cases were treated without transfer of the disease. Hay in Aberdeen, while noting instances of infection in the hospital during the outbreak of typhus in 1906, says that they were very few, as compared with former times, and confined to those who were brought in contact with the patients before or at entrance into the hospital. Those who handled the patients after they were cleansed escaped.

Now, thanks to the work of Nicolle, Ricketts and Wilder, and Anderson and Goldberger, carried on with such danger and at such a sacrifice, we have been given what is probably the true explanation of the epidemiologic phenomena of this disease. It has been conclusively shown by these experiments that the body louse can, under ordinary conditions, transmit the disease from man to monkey and from monkey to monkey. Three of these men contracted the disease and Ricketts died. Goldberger's attack came on five days after he was bitten by a presumably infected louse. The seasonal, geographic and social distribution of typhus fever all accord well with the theory that it is transmitted by lice, as does also its decrease in recent years in countries of the most refinement, while it still lingers in others. Formerly our hospitals, as well as our prisons and camps, were vermin-infested. No wonder that typhus fever spread in Bellevue Hospital when it could be said, as in 1837, that some of the chronic patients had not had a change of bedding in three months, while between 1881 and 1893, after the advent of the trained nurse, 1,897 cases were received in the hospitals of this city with extension of the disease to only one of the staff. Surely typhus fever must now be removed from the list of air-borne diseases.

SMALL-POX

A wider infection of the atmosphere has been claimed for small-pox than for any other disease. This claim was supported by what seemed very strong evidence and the local government board of England, the weightiest sanitary authority of the times, crystallized the then current views in the dictum that hospitals for this disease should be located at least a mile from inhabited areas. If the aerial infection of small-pox was effective at such a distance, it is no wonder that it was argued from analogy that other diseases were easily and commonly spread through the air of the sick-room or the hospital ward. It is therefore important to question somewhat in detail the evidence in support of this view. This I have done elsewhere,[1] and will now merely summarize what I have there written. Power's report on small-pox around the Fulham Hospital in London was the immediate cause of the stand taken by the local government board. Power attempted to show that whenever the hospital was occupied by acute cases, the disease developed in the neighborhood, showing a progressive decrease as the distance from the hospital increased. A similar increase around other hospitals in London and in a number of English cities, and extension from the isolation ships in the Thames, has been alleged. On the other hand, the disease did not always spread, even from Fulham, and numerous observers in both England and this country have failed to find any evidence of such extension.

Much of the material published by the English advocates of aerial infection does not stand criticism and analysis. Even at Fulham the thickly populated streets nearest the hospital were not much affected. Other sources of infection for the cases alleged to be due to aerial convection were not excluded, and a further study of the forty-one cases nearest the hospital at Fulham showed that twenty were due to direct contact. In Liverpool in 1902-3, according to the government inspections, the hospitals were the cause of much air-borne small-pox, but Hope, the able health officer of the city, completely riddles their evidence. Government inspectors also claimed aerial convection at Gateshead in 1903-4, but the local health officer showed that of the fifty-six cases on which this conclusion was based, fifty-two were clearly traced to contact with other cases. As for the ships in the Thames, small-pox appeared on the shore nearest the ships, and then gradually extended to a distance of 2 or 3 miles. This sort

1. Chapin, Charles V.: Sources and Modes of Infection, Ed. 2, New York, 1912, 260.

of an extension is just what would be expected in contact outbreaks. If the infection were air-borne, the near and distant communities would have been affected at the same time. It was claimed by Dr. Thresh that the influence of the ships could be noted at a distance of 4 or 5 miles. It was also claimed that several vessels anchored near the hospital ships developed small-pox twelve days later. That ships leaving London during the period of the extensive outbreak in that city should occasionally carry small-pox with them is not remarkable. Finally, it was admitted that surreptitious communication with the ships occasionally occurred.

At the time of Power's investigation the control of small-pox was very lax. It is stated that many patients with small-pox walked to the London hospitals for admission, ambulance drivers stopped at public houses, children of the neighborhood rode on the steps, and friends with the patient inside the ambulance. Direct communication with the hospital often occurred. It would be most remarkable, if the disease extends from, say, one hundred cases to the distance of a mile with sufficient intensity to infect many persons, that it should not extend one hundred feet from ten cases or even from one case. Why should we not expect aerial infection frequently to operate at short distances from single cases? Yet such transmission does not occur unless with great rarity. How rare it is for any claim to be made that this disease has been carried across the street from house to house, and how unique a rigid demonstration of such an occurrence would be! How often a single case in a crowded lodging-house, ship's steerage or hospital ward fails to infect others! Yet we are asked to believe that one hundred cases can give rise to a whole circle of cases a half mile away. Either the amount of virus must depend on the number of patients or it must under hospital conditions develop in some marvelous way outside of the body.

Collie,[2] who for many years served in five of the London hospitals, has recently reviewed the evidence derived from them, particularly, that from the Homerton Hospital. He came to precisely the same conclusion as I did as to the fallacy of the theory of aerial transmission. He shows that the disease was not distributed around the hospitals as alleged, that much of it was due to contact infection, that the hospitals are in locations where the disease is rife, that it was often prevalent before the hospitals were opened, that unreported mild cases were very numerous, that the administration of the hospitals was lax and that the disease, as a consequence, was spread from them by personal contact. Collie furthermore shows that the incidence of small-pox in institutions adjoining the Homerton Hospital has been small, very different from what is required by the theory of aerial convection, and he gives figures to show a very small incidence of the disease on "other fever patients" treated in adjoining wards of the same hospital, though a large number of these were unprotected by vaccination.

PLAGUE

With the uncertainty as to the true nature of Oriental plague it is not surprising that, among other theories, as to its mode of infection, aerial transmission held a prominent place. The development and demonstration of the theory that plague is primarily a disease of rodents, and that it is spread to man almost exclusively through the agency of fleas, is a fine example of modern scientific method. In this work both the epidemiologist and the laboratory man played important parts. The most complete and convincing evidence was that furnished by the last British plague commission in India. Some of their experiments, demonstrating the agency of fleas in the propagation of bubonic plague, also demonstrated conclusively the entire absence of air-borne infection. Many experiments were made in infected native villages, in houses in which plague had been rife, and from which the human inhabitants had removed. Numerous rodents were exposed in flea-proof wire cages, or protected by sticky fly-paper, but of course freely exposed to the air of the apartments. As long as fleas could not reach the animals they never developed the disease, but numerous control animals exposed in the same places, but not protected from fleas, became infested with these insects and contracted plague. These experiments are entirely in accord with the experience that cases of bubonic plague may be treated in general hospitals without danger, if only the place is kept free from vermin. At the present time probably all epidemiologists are agreed that air infection plays no part in the spread of the disease.

PNEUMONIC PLAGUE

With pneumonic plague, conditions are very different. This form of the disease is usually highly contagious from person to person. The pulmonary secretion is large in amount and crowded with bacilli. Where this type of disease prevails, insanitary habits prevail also, and the opportunities for contact infection are great. Nevertheless the contagiousness of the disease is so great, that in the especially virulent form, which recently occurred in Manchuria, many observers were led to believe that the disease was easily air-borne, presumably by droplets. The primary focus of infection in a large proportion of cases seemed to be in the larger bronchi, though sometimes it was in the tonsils. Strong and Teague sought to demonstrate the presence of droplets by exposing agar plates held vertically before the patients, or in some instances guinea-pigs were so placed. It was found that no plague bacilli were deposited on the plates during quiet, or even labored breathing, though held within a few inches of the face. When held before coughing patients, even at the distance of a meter, they were commonly infected. The wards were crowded with patients and, owing, it was believed, to the droplets, the care of the patients proved very dangerous for the attendants. This danger seemed to be greatly reduced by wearing masks to prevent breathing the germs. The weather was extremely cold and damp, so that the breath was visible and often condensed on the agar plates. Teague and Barker have shown that plague bacilli in droplets sprayed from an atomizer, die in a few minutes in dry warm air, but live much longer in cold damp air, which fact he suggests may account for the occurrence of most outbreaks of pneumonic plague in the winter months. While it would appear that the air in the hospital wards in which these observations were made was dangerously loaded with bacilli-bearing droplets, it may be that it would be quite different if cases of this disease were treated in a ward with sufficient air space and a distance of say 6 feet between the beds. Dr. Strong is, however, strongly of the opinion that, owing to number and virulence of the bacilli and the amount of sputum, droplet infection is, under any conditions, a grave danger in this disease.

2. Collie: Small-Pox and Its Diffusion, Bristol (Eng.), 1912.

MEDITERRANEAN FEVER

The discovery of the etiology of Mediterranean fever is another brilliant example of the effectiveness of modern scientific methods. In the multiplicity of theories resulting from ignorance, of course, aerial transmission had its place. Even two or three years after Horrock's successful work I met a highly educated priest from Malta, who insisted that goat's milk had nothing to do with the disease, but that it came from poor drainage and the resulting effluvia. Among Horrock's numerous experiments were some in which he showed that the disease could be given to monkeys by making them inhale dust which had been artificially infected with large numbers of *Micrococcus melitensis*. Experiments such as this, under unnatural conditions, have little value. But when Horrocks kept monkeys under natural conditions, in separate cages, close by infected animals, they never developed the disease; in other words, there was no air-borne infection. The coccus of this disease has a considerable resistance to drying, much like that of the typhoid bacillus, and theoretically this might therefore be assumed to be a dust-borne disease. The presence of the germs in the urine of numerous goats which move freely about in the streets lends color to this theory. Horrocks showed that it can be dust-borne, but under natural conditions is not.

INFLUENZA

That influenza is air-borne, even over long stretches of country, was a common theory twenty years ago. That the air has no part in its extension from place to place, but that its presence is always due to the importation of cases, was abundantly proved by the observations of Schmid, Parsons and Leichtenstern. That the disease may be spread within a few feet of a coughing and sneezing patient by means of visible droplets is highly probable. That it is transmitted by floating droplets, or by dust, is not likely, as the bacillus has a low resisting power. Reliable clinical observations as to its extension in hospitals and dwellings appear to be lacking.

Judging from the feeble resistance to drying of the coccus of epidemic meningitis that disease seems unlikely to be air-borne and certainly cannot be dust-borne. The fact that meningitis treated in open wards does not spread also contra-indicates it, though the high proportion of carriers to cases somewhat weakens the argument.

Rather scanty experiment indicates that the virus of epidemic poliomyelitis may possibly be dust-borne, and the possibility of its transmission by house-flies, by biting flies and by direct contact with infected secretions has been demonstrated, but which mode of infection actually prevails under natural conditions we do not know. The fact that the disease occurs chiefly in dusty weather is no more reason for assuming it to be dust-borne than is the fact that it prevails in fly-time proof of its transmission by flies. As in meningitis, absence of infection in hospitals indicates that the air is not an important vehicle of infection.

PNEUMONIA

Although much is said, particularly in semipopular literature about the aerial transmission of pneumonia, we really know nothing of the way in which the coccus of this disease reaches the lungs. Nearly half the population at times carry the germs in the mouth. Pneumonia develops only when bodily resistance is weakened. How the coccus in these cases passes from the mouth to the lungs we do not know. That the more virulent strains sometimes pass from person to person seems certain, but neither pathologic experiment nor clinical observation has as yet shown the mode of transference.

SCARLET FEVER, DIPHTHERIA, MEASLES AND WHOOPING-COUGH

If we regard their frequency and the demands which they make on the practicing physician, the health officer and our hospitals, the most important of the contagious diseases, in this climate, are scarlet fever, diphtheria, measles and whooping-cough. Unfortunately, the laboratory has as yet been able to furnish but little evidence as to the mode of their infection. A great deal of evidence, however, has been furnished in recent years by clinical observations, particularly in hospitals. Within the last dozen years the great importance of contact infection has come to be recognized and hospital men have been learning to guard against the spread of disease in their wards by a technic similar to that made use of by surgeons to prevent the infection of wounds. There have been developed medical aseptic methods which so effectually eliminate contact infection that the part played by other modes of transmission can more easily be determined. The impression that air-borne infection is of small moment has been made on hospital superintendents slowly, but so surely that they have dared and have found it convenient to care for different contagious diseases in rooms opening into a common corridor, or rooms only partially partitioned, the so-called cubicles, or even in one open ward. In the latter case the patients are said to be "barriered," which simply means that there is a card or other indication on the bed that the nurse must take special care in passing from patient to patient. There has resulted a considerable mass of carefully collected data as to the aerial transmission of these diseases.

Scarlet fever and diphtheria have very generally been believed to be air-borne, especially scarlet fever. Great fear is always manifested by a neighborhood in which it is proposed to locate a hospital for these diseases, and until quite recently this fear has been shared by health officers. My own ideas as to the aerial transmission of these diseases began to be greatly modified many years ago, when I noticed that they do not spread from tenement to tenement in the same house, unless there is direct contact. In Providence, both scarlet fever and diphtheria spread to other families in about 7 per cent. of the cases, and a careful study of these extensions shows that they take place almost always, either before the disease is recognized, or because of direct contact afterward.

After our hospital was established it was carefully watched, but no especial incidence of these diseases was noticed in the well-populated tenements distant 150 feet. The most careful study of this alleged influence of the hospital was made in Boston, where it was shown that during the period of the observation no cases occurred within one-eighth of a mile, while in the next eighth of a mile circle there were sixty-eight cases. Similar observations have been made in other cities, and in no place is any evidence forthcoming of extension even between different buildings of the hospital.

As regards diphtheria, there is also most convincing evidence that it is not air-borne, even indoors. Although diphtheria carriers are almost constantly barriered in

the scarlet fever building in Providence, and not rarely clinical diphtheria as well, there have been only three cases of cross infection among about five hundred cases.

In the isolation wards, in which different diseases are cared for in rooms opening into a common corridor, with 126 cases of diphtheria and 130 carriers, there has been no extension to the 541 other patients. Rundle in Liverpool, had no extension from 42 cases to 699 others in his open ward. Thomson had only 2 cross infections in over 1,200 cases. All of the English hospital superintendents agree that this disease is not air-borne. The extremely small number of cross infections are admitted to be due to failure in aseptic technic. Many hundreds of students have passed through the diphtheria wards in Philadelphia without contracting the disease. Although diphtheria is not air-borne, the bacilli are among the more resistant bacteria, more resistant than tubercle, influenza, pest bacilli, the cocci of meningitis or pneumonia or the cholera spirillum, and we should expect diphtheria to be more readily air-borne than the other diseases mentioned. Teague found the bacilli on a third of all plates exposed in front of speaking patients. The clinical evidence that diphtheria is not an air-borne disease, when purely bacteriologic evidence indicates that it is likely to be such, should make us suspicious of other bacteriologic deductions, deductions which are likely to be misleading if the quantity of the dose is not critically studied.

The evidence also is very convincing that scarlet fever is not air-borne. One reason why we have believed in the air carriage of scarlet fever is that we believed the desquamating epidermis to be infectious. This we now know is not true. For the best evidence we must again turn to the hospitals in which contact infection is reduced to a low limit by aseptic nursing, but in which there is no air separation. At the Pasteur hospital in Paris there has not been a cross infection of scarlet fever among thousands of patients. None occurred in the open wards at Manchester. Thomson had 5 cross infections in 1,290 patients in cubicles and 7 among 660 patients in separate rooms, though the circulation of air in the latter was less than in the cubicles. Rundle had 2 cross infections, and in both there was contact infection. Caiger, Goodall, Gordon, Peters, Crookshank, Biernacki and other English observers, agree that non-septic scarlet fever is not air-borne in hopitals. In Providence we have not been so successful, as we have had 8 cross infections among the 582 non-scarlet fever cases in our isolation wards, Dr. Richardson, the superintendent, believes that these were due to contact infection, owing to failure in nursing technic, or to the carelessness of interns. Schamberg says that none of the nearly two thousand students visiting the scarlet fever wards in Philadelphia have contracted the disease. Ward maids, who do not touch patients, rarely contract scarlet fever, while nurses and physicians coming within the range of visible droplets and coughed-up masses of sputum not infrequently do contract scarlet fever and diphtheria as well. In private families maids, who do not have the care of the children, practically never contract scarlet fever from them, while the parents and nurses do.

The French seem to have been the first to question whether or not measles is chiefly air-borne. The rapid spread of this disease in all institutions for young children in which it happens to be introduced affords one of the difficult problems of institution management. Grancher, believing that the disease is largely spread by contact, attempted to control it in the wards of the children's hospital in Paris, by means of aseptic nursing, without removing the patient from the ward, and he came to the conclusion that the disease is not air-borne, as did also Rohmer at Cologne.

At the Providence City Hospital measles cases are cared for, together with other diseases, in rooms opening onto a common corridor. There is no attempt at air separation and different diseases are attended by the same nurses and physicians. To October 1 of this year there have been admitted 320 cases of measles and 669 persons suffering from other diseases. During most of the time measles was present. During the first nineteen months, 38 cases were admitted with only one cross infection. Then we had three outbreaks, causing in all 23 cases but since May, 1912, there have been but 2 cross infections derived from the 139 cases of measles cared for in this building. The fact that during many months numbers of measles cases have been treated with no cross infection, although there is no air separation, suggests that air infection does not readily occur. Then, too, when cross infections do develop, they are quite as likely to be in distant rooms as in opposite ones. To us it seems, not that the virus of measles is air-borne to a distance, but that it is less easily washed from the hands of nurses and physicians than is that of scarlet fever and diphtheria. We admit a failure of our aseptic methods as hitherto practiced, rather than aerial transmission. There is a difference of opinion among the English hospital superintendents, and while Rundle has successfully cared for measles cases in open wards with susceptible children without cross infection, the others believe that at times the disease is air-borne. Goodall refers to one instance in which a measles case remaining in a twenty-bed ward over night caused nine cases, but he does not say how rigidly contact could be excluded. The evidence as to the aerial transmission of measles is conflicting, so that we are not justified at the present time in coming to a definite conclusion. I am inclined from my own experience to the view that it is not.

A comparatively small number of cases of whooping-cough are admitted to hospitals employing aseptic methods so that few data are at hand as to the mode of transmission. Rundle had no extension from thirteen acute cases treated in his open ward. Caiger thinks that it is not readily air-borne and Biernacki finds that cases can be aseptically nursed provided the beds are 12 feet apart, though to prevent the expulsion of visible droplets during the paroxysms he advises a canopy over the head of the bed. At Providence, twenty-five cases have been treated in the isolation rooms and some cases in other wards without transfer. The only extension in the hospital has been from unrecognized cases among diphtheria patients in which there was direct contact. Richardson is strongly of the opinion that the disease is not air-borne.

CHICKEN-POX AND RUBELLA

There is also difference of opinion as to the aerial transmission of chicken-pox in hospital wards. Most of the English observers think that at times it may be so carried. Goodall and Rundle think otherwise and their opinion is shared by Richardson in Providence.

Caiger does not think that rubella is easily air-borne, for he received 82 cases in his cubicles during eighteen months, and for several months there were from 6 to 8 cases in the wards at a time, yet there were only 2 cross

infections. In the isolation wards of the hospital in Providence 37 cases have been admitted with no cross infection among nearly a thousand other patients admitted. At one time 3 cases developed in the diphtheria ward where they had been cared for by a nurse who was coming down with the disease.

TUBERCULOSIS

As tuberculosis has its chief, and apparently primary, seat in the lungs, it was only natural to assume that the route of infection is by the inspired air. Koch's studies on the resistance of the bacillus and its survival in dust greatly encouraged this view, as did the extensive observations of Cornet as to the presence of the germs in dust obtained in the neighborhood of careless consumptives. Then came Flügge, who attempted to show that dust is of little moment, but that infection by floating droplets is the chief mode of infection. The somewhat active controversy between the followers of these two men has, I think, merely served to convince most of us that under the conditions of the experiments both dust and droplets are capable of causing the disease. In tuberculosis, the pathologists take a prominent part in the discussion of causation, but are at variance as to where the primary lesion is to be found and whether the bacillus enters by the respiratory or alimentary tract. Many think that most tuberculous infection dates back to early life, and not a few derive it from the ingestion of milk, though this latter view seems to be losing ground. The weight of evidence derived from these lines of study seems to indicate that the infection is commonly, if not usually, air-borne, and that the primary lesion is in the respiratory tract. There are not a few, however, who hold that contact infection plays a prominent, if not the larger part, in the distribution of the disease and that bacilli-holding sputum carried to the mouth and nose in countless ways reaches the lungs by insufflation or by absorption through the tonsils or through lower sections of the alimentary tract.

Tuberculosis is such a chronic disease that it has thus far been impossible to devise observations on human beings which would throw much light on the route of infection. Recourse must be had to animal experimentation, and most of this has been done under conditions far from natural. Still, a good many experiments have consisted in exposing test animals in cages in apartments occupied by consumptive animals or human beings. A large number of tests made by the Department of Agriculture by exposure to animal sources of infection resulted in a very few cases of tuberculosis. Exposure of test animals in cages in rooms with human beings in Germany, France and this country has almost invariably resulted in the development of the disease in some of the animals, but unfortunately in no instance could contact infection be absolutely excluded, except in an experiment made in a house in Providence occupied by a careless consumptive. Here two sets of guinea-pigs were exposed in cages, one set fed by the patient and the other excluded from any possible form of contact. Most of the animals in both sets developed the disease. The animals in the locked cage covered with wire gauze were, I believe, infected by mouth spray, as the patient often held his face right in front of the box and talked to the animals. There is then a good deal of evidence to show that tuberculosis may be, oftentimes, an air-borne disease. This evidence is certainly far more convincing than for any other disease, except perhaps anthrax. If, as seems probable, the air may serve as a vehicle for the carriage of tubercle bacilli it is probably because, in this disease, more germs are discharged indoors in places where they are likely to get into the air than is the case in other diseases, and because the bacilli have a fairly high resisting power.

ANTHRAX

On theoretical grounds, anthrax ought to be more easily air-borne than any other disease. The spores resist drying for many years, their virulence is high and they are, at times, found in large numbers in materials handled by workmen in such a way as gives rise to much dust. Workers in wool and hair, coming from anthrax-infected regions, have always been subject to this disease. Formerly, when no precaution was taken to prevent the breathing of dust, the disease was very much more prevalent than it is now. During nine months, in 1882, thirty-two cases occurred in the woolen industry in Bradford, England, of which twenty-three were of the pneumonic type and presumably due to the inhalation of dust. Last year there were seventeen cases, and of these only three were of the internal type, so that it appears that with increased freedom from dust the latter type of the disease has shown marked decrease while the external type has not. Careful observers in England and Switzerland have noted the occurrence of anthrax in animals grazing on pastures on which dust from wool-sorting or hair-cleansing rooms was blown.

After this review, a summary scarcely seems necessary, or even a formal conclusion. We have seen that a number of important diseases, formerly considered exclusively air-borne, have been shown never to be such. There is little evidence that, among the diseases which commonly occupy our attention in this part of the world, aerial transmission is a factor of importance. In most it is under ordinary conditions of home and hospital, a negligible factor. For tuberculosis alone is there evidence that air-borne infection is a factor of moment, but the last word has not been said as to the etiology of this disease. We may be sure that the sewer-gas bogey is laid, the notion that dust is a dangerous vehicle of every-day infection is unsupported and that mouth spray is usually effective only at short distances.

HYPERACIDITY OF THE STOMACH

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There is hardly a single condition concerning which opinion and treatment have so much changed during recent years as so-called hyperacidity of the stomach. Practically this term is taken to mean those cases of increasing gastric disturbances which appear at various intervals after the taking of ordinary food or special kinds of nourishment. The pain is sometimes accompanied by eructations of gas and small quantities of soured fluid (heart-burn). On examination of the gastric contents obtained with the stomach-tube, there is found either hyperacidity, large quantities of normal stomach-juice, or acid gastric juice. Thus we have either hyperacidity or hypersecretion. The latter may be separated into a digestive and a continuous type.

The continuous type of hypersecretion, when appearing periodically, has been called by some authors

gastroxynsis. The most serious cases of continued hypersecretion are known as Reichmann's disease or gastrosuccorrhea.

When further analysis of the cases for various abnormal stomach contents is attempted, many difficulties arise from the fact that the contents do not represent a simple mixture of the test-meal and the gastric secretion. In fact, they first undergo certain uncontrollable changes by their evacuation into the duodenum, which occurs almost immediately after eating. Furthermore, hydrochloric acid may be partly neutralized by the alkaline fluid of the duodenum and the mucus produced by the superficial gastric epithelium. Neither the most exact examination of the stomach contents, performed with repeated aspiration during digestion, nor the valuation of the residue by the Matthiew-Raymond method is able to give us a true idea of the different factors here active.

It is important to know if, in the disease spoken of, the amount of secreted hydrochloric acid is the same as in normal conditions.

In consequence of investigations made on the lower animals by Pawlow and on men by Rubow, Hornborg, Bickel and others, the opinion has been almost generally accepted that pure gastric juice has always the same rather high percentage of hydrochloric acid, even under pathologic conditions. According to this opinion we are led to believe that under normal circumstances the pure glandular product is diluted or partly neutralized by alkaline or gastric mucus, since we do not meet such high degrees even in the empty stomach. According to Forschbach and Schutz, we ought further to believe that the different kinds of hyperacidity or hypersecretion arise either from the secretion of stomach juice being too copious or lasting too long compared with the digestive stimulus represented by the test-meal, or by irregularity of the intervals occurring between the gastric secretion and the emptying into the duodenum. Recently Gregerson, by careful investigations, has proved that at least so far as the human stomach is concerned, Pawlow's opinion must be abandoned, unless we presume that the superficial epithelium produces concentrated alkaline fluid, together with pure gastric juice, a suggestion which is rather paradoxical. Comparing the stomach contents after the usual test breakfast (tea and toast) with those stated after the so-called dry testmeal, Gregerson found, shortly afterward, the same amount of fluid and nearly the same percentage of acidity in both cases. Hence we must conclude that the stomach secretion varies considerably in the amount of hydrochloric acid which it contains.

Under pathologic conditions, these variations occur with greater intensity in view of the fact that the gastric secretion, as well as the motility of the stomach, is dependent on the nervous influences which arise not only from the stomach contents, but also from the brain. It is not remarkable that the gastric contents, as well as the other symptoms of the disease, should vary with the state of the central nervous system. Patients themselves will talk of the whims of their stomachs. One suffers regularly from eating sweets, another from taking too much fat and a third stands the same food either badly or well, according to his mood. Nearly all of them agree that sorrow, excitement or other psychic influences increase their complaints.

One of the most interesting questions connected with this disease is whether or not there is an etiologic relationship between the hyperacidity of the stomach contents and the so-called acid pains, gnawing pressure in the stomach some hours after meals and the heart-burn. The common experience of instant cessation of these symptoms after a dose of sodium bicarbonate or other alkaline salts would seem to confirm it. But it is a well-known fact that hyperacidity and hypersecretion will continue even after the symptoms are completely relieved. Moreover, patients with diminished gastric secretion, achylia or hyperacidity complain sometimes of quite similar pains, so that no experienced observer will venture to take the hyperacidity for granted on the basis of anamnesis without confirming the condition by the use of the stomach-tube. As a matter of fact, the question has been decided in the negative by the results of a simple experiment. It has been found that large quantities of highly concentrated hydrochloric acid introduced into a normal stomach (Schmidt took solutions of 5 per cent.) do not produce such pains. The so-called acid pains, therefore, must be due to some other cause, either a spasm of the stomach sphincters or a hypersensibility of the mucous membrane, or hydrochloric acid, or something hitherto unknown. Cinematographic roentgenoscopy of the stomach during digestion, which has reached its highest perfection in the United States, has shown that very often the beginning of the so-called acid pains takes place at the same time as the spastic contraction of the pylorus.

Of more practical importance, but associated with the theoretical points just discussed, is the question whether the state of hypersecretion or hyperacidity occurs as a disease, *per se*, dependent only on nervous cases, or is always based on certain organic lesions such as gastritis, ptosis of the stomach, ulcers, adhesions, scars, gallstones, etc. A short time ago we did not hesitate to take the majority of the cases as pure stomach neuroses, provided that the presence of a clear sign, as hemorrhage or periodic stenosis of the pylorus, was not against it. To-day our opinion has changed chiefly in consequence of the rediscovery of duodenal ulcer and the description of its clinical signs by American and English authors. I shall neither enter into the difficult question of the exact diagnosis of duodenal ulcer, nor discuss the causes of its high frequency in America compared with the small number of cases occurring in Europe. Yet I shall attach weight to the merit of the Mayo brothers and other surgeons who have shown that an ulcer of the duodenal or pyloric region is often hidden by the symptoms of hyperacidity. We always have reason to suspect the presence of such an ulcer when roentgenoscopy reveals that peristalsis, initially increased, stops in the later periods of digestion; that the well known six hours' residue remains, and that these two periods are separated by a spasmodic contraction of the pylorus, which corresponds to the setting in of hunger-pains. Of course, roentgenoscopy gives more convincing signs, among which may be mentioned the deviation of the pylorus to the right, the worm-eaten cap and the constant filling of the duodenal bulbus, but they are seldom to be found in cases of mere hyperacidity running along without vomiting, loss of blood and other decisive symptoms of ulcer. Here I wish to emphasize the importance of a most careful examination by all methods available in each case of hyperacidity or hypersecretion in which there could possibly exist a hidden ulcer of the stomach or the duodenum, or scars, adhesions, etc., caused by them.

If the results are negative we must go on searching for other causes of hyperacidity. Certain rare cases,

like beginning cancer of the pylorus, the occurrence of gall-stones and simple catarrhs of the stomach must first be considered. We can take it as a fact that in many liver diseases, especially those accompanied by pains, the secretion of the gastric acid is increased as the result of a reflex influence. There can also be no doubt that some acute, as well as chronic, inflammations of the stomach result in increased acidity, whether they are connected with atonic ptosis or not. These acid catarrhs may cause some difficulty for diagnosis, since the mucous product of the epithelium, the characteristic sign of catarrhal inflammation, is dissolved by the gastric juice, and therefore does not reappear in the washed-out specimen. The patients are afflicted often with an abnormal irritability of the stomach, so that even a little too much free acid leads to a spasm of one or both sphincters. When the stomach is washed, these patients choke continually and vomit violently. Here we encounter the hyperirritability of the mucous membrane already mentioned, which should be considered as a local manifestation of the general nervousness with which most of these patients are suffering. The irritability of the autonomous nervous system in the so-called vagotonic patients sometimes leads to spastic contraction of the stomach vessels, and this phenomenon is regarded by some authors (Bergmann, Roessle), as the very cause of the ulcer.

This shows that the present state of science does not allow a large space for the purely nervous cases of hyperacidity. It is due to the increasing refinement of our diagnostic knowledge that here, as well as in other branches of medicine, the number of those doubtful cases is more restricted, and the opinion is daily spreading that the nervous moment is only an accompanying symptom of an organic lesion, though the nervous feature may completely overshadow the real disease. Yet we should be premature in entirely denying to-day the clinical unit of hyperacidity. We confess, with resignation, that in practical medicine we often must be satisfied in stating the changed chemism of the stomach.

In treatment, the principal point is not to restrict ourselves to the stomach alone, but at once to aim at calming and strengthening the nervous system, the state of which is of so great importance for the comfort of the patient. Some patients suffering with hyperacidity can get rid of their disease in no other way than by giving up their work for some time, leaving their families and undergoing a real confining treatment in a hospital or sanatorium. I demand this in every severe case, and believe that I owe many good results to this procedure.

Naturally we try first to reduce the increased secretion of the stomach by application of medicines. Atropin is known as a substance which diminishes the secretion of the gastric glands as well as those of the salivary and sweat glands. Therefore the extract of belladonna, which at once levels the tonus of the vagus and removes the accompanying spasm of the sphincters, is a popular part of many stomach powders. Von Tabora recommended regular injections of 0.5 or 1 mg. of atropin before meals, but it is surely not advisable to continue this for a long time, if there is a chance of removing the real cause of the illness in another way. The alkalies which have already been taken for a time by most patients not only neutralize the superfluous acid, but, according to Bickel, also stop their production to a certain degree. On the other hand, they irritate the stomach glands, particularly if carbonic acid is set free by their reaction with the stomach acid, for the carbonic acid is not indifferent to the mucous membrane. Therefore, we prefer to give the magnesium oxid instead of sodium bicarbonate, and we combine it with small quantities of belladonna and a purgative salt, such as sodium sulphate. With the latter I intend to produce a transudation of fluid into the intestine and so to diminish the secretion of the stomach glands. The effect of the Carlsbad water, which often proves beneficial, seems, indeed, to result from the favorable combination of alkaline and purgative salts, but it should always be given in small quantities. Some other acid-binding drugs, as powdered charcoal, kaolin and aluminum silicate, act in another way, by mechanical absorption, each of them being worth trying occasionally. More heroic is the cure of Henriques and Hambart, who for a time withdraw all chlorids from the food. Winternitz and Petri of Halle followed a new principle by introducing magnesium peroxid into the stomach. These authors observed that small quantities of hydrogen peroxid diminished even in a pronounced degree the acidity of the stomach contents, and that this fact is based on an irritation of the surface epithelium, the alkaline product of which neutralizes the present acid. Here we have to deal with the opposing effect of one irritation to another. Lastly, silver nitrate belongs to this group. Its excellent effect on hyperacidity is caused partly by its astringent qualities on the secretory cells, and partly by blunting the hyperirritability of the mucous membrane. For the latter purpose it is to be given as a medicine to be taken half an hour before meals; for the former it is used as a solution to rinse the empty stomach in the morning by means of the tube.

As regards the diet, which is perhaps even more important than the treatment by medicine, opinions differ, though some controversial points are already cleared by the results of experimental medicine. There is no doubt that all kinds of foods and drinks which belong to the class of secretory stimulants must be avoided, as, for example, too much salt, sparkling drinks, high-percentage alcoholics, coffee, meat-juices or extracts of beef, and spices. More difficult is the question of how to arrange the meals. We distinguish three groups of diet specialists corresponding to the single groups of food; those who prefer albuminates, those who prefer carbohydrates and those who prefer fat. The advocates of the first group emphasize the fact that only the albuminates can bind the hydrochloric acid, and therefore have the same effect as the alkalines. They sometimes go so far as to prescribe that when the pains appear the patients should take regularly some food prepared from meat, eggs, etc., lest the stomach should become empty.

Contrary to this, the advocates of the carbohydrate diet assert that they are more correct, since the ingestion of carbohydrates stimulates the production of gastric acid little or not at all, while albuminates first stimulate and then neutralize the acid. They declare their diet as a rational one superior to the symptomatic albuminate diet. They not only avoid stimulating the production of the acid, but also try to produce a reflux of alkaline juice from the duodenum into the stomach, which is most easily done by taking one or two tablespoonfuls of pure olive-oil before meals.

With regard to these three groups, it must be stated, from a practical point of view, that it is most difficult to give one special kind of food for any length of time. Moreover, it is really unnecessary because experience

shows that some other dietary prescriptions are more important. I long ago returned to a mixed food and am quite satisfied with it, but strictly observe the following rules, which I believe to be decisive:

1. All food must be well cooked and most carefully minced. This order is based on my own theory that the chief business of the stomach is to reduce the food into small pieces, not by its muscular force, but by chemical influences. These influences consist in the dissolution of the intermediate substances, the connective tissue of meat and fat, the gluten of the bread and the so-called "middle lamina" of the vegetables. As to the connective tissue, I have shown that only the gastric juice is able to digest raw or insufficiently cooked connective tissue, and that during the digestion of meat in the stomach it is always connective tissue which is first dissolved, so that the muscular fibers are set free. This phenomenon is the base of the connective-tissue proof which is a part of my test diet.

As to the disintegration of bread in an efficacious gastric juice and its remaining compact in achylia or hyperacidity, it is sufficient to mention the phenomenon which is generally known as amylorrhexia. The middle lamina of the vegetables is not really dissolved by the stomach juice, but is only prepared by it for dissolution in the alkaline intestinal juice. In this way the chemical stomach work leads to the reduction of all sorts of food into small pieces, and this is a much more significant act of the organ than solution of albuminous matter, as the latter is more surely and with more power effected by pancreatic juice. As the food pieces are broken up by the chemical influence of the gastric juice, they are pushed into the duodenum. Pieces not quite broken up remain for a long time in the stomach, while fluids are rapidly pushed forward. This process is also of importance for the evacuation of the stomach.

2. The stomach must come to rest at least once during the twenty-four hours. This can best be arranged by changing the usual time of meals. The patients should eat large quantities of food in the morning, but only a small quantity in the evening. This means that during the forenoon, when, according to my experience, the patients suffer the least from their pains, they should take two or three meals with intervals of two hours so that there is little appetite left for lunch. After lunch they do not take anything until 7 p. m., when only porridge is given. They will now fast until the next morning, and this change also has the advantage that the production of gastric acid, which has been adapted before to lunch and dinner, is regulated in a new manner; the chief secretory reflexes, easily provoked during the former style of living, are now put out of circuit. I can say certainly that I have obtained very good results with this method.

3. Drinking should be generally diminished and restricted to those hours when the stomach is not filled with food. I therefore give the meals rather dry, except the first breakfast and the evening soup, and let the patients drink a short time before lunch or in the afternoon. This prevents loading the stomach, which measure is of special importance to patients suffering from atonic ptosis.

4. If the condition is a severer one or if it is combined with ptosis of the stomach, the patients have to stay in bed for two or three weeks. I think this advice most important. It results from the experience that many patients have their acid pains only when being about or walking, never when lying down. It is further based on the frequency of latent ulcers which lurk behind the symptoms of hyperacidity.

It may be remarked that my dietetic treatment of hyperacidity comes into close touch with the old Leube cure in gastric ulcers. I confess that there is only a certain difference of degree.

I sometimes also order hot compresses in simple hyperacidity, if they give relief to the patient, but I do not apply them continually as Leube does—only twice daily for two hours. For the night I substitute cold hydropathic compresses for them.

Washing the stomach is indicated only if the hyperacidity rises on the basis of a catarrh. Then I rinse the empty stomach in the morning with 1:1,000 solution of salicylic acid or 1:5,000 solution of silver nitrate. Moving the bowels must be carefully regulated.

What is to be done if all these prescriptions do not lead to recovery? This question is equivalent to the other — "Under what circumstances are we allowed to operate in hyperacidity or hypersecretion?" — and cannot be answered generally. Indeed, the nature of the process alone, that is, its being a functional one, cannot always be decisive; it may sometimes be of less importance than the violence of the pains, or the general state of health or the social position of the patient. There is a difference between an apparently neurasthenic patient whose condition remains unchanged after a well-performed gastro-enterostomy which only reduced his stomach pains — for example, an old man who has given up business and can stand his pains if he takes care with his food — and a young man overwhelmed with his business who wishes at all costs to get rid of his sufferings. In the latter case I should advise an operation. There is no doubt, in my opinion, that a case of hyperacidity or hypersecretion, even without complication, which cannot be relieved by internal treatment in order to make the patient fit for work, gives an indication for operation. The manner and procedure of operation cannot be discussed here in detail. This depends on the state of the patient's condition found during operation. If an ulcer of the pylorus or duodenum or a scar is the cause of the hyperacidity, gastro-enterostomy is the right procedure, and if possible, the pylorus should be closed. Perigastritic adhesions must be loosened, and gall-stones removed by cholecystotomy or cholecystectomy. But what is to be done if there is no anatomic lesion at all? In these cases I should advise gastro-enterostomy, but without the closing of the pylorus. The latter can be recommended only if violent pylorospasm is present. The patient should never be allowed to get up and eat anything he wants immediately after recovering from the operation; he must go for some time with the diet and drugs in the same manner as before operation, as the operation does not restore health alone, but only establishes conditions favorable for internal treatment.

Fee-Splitting.—The secret division of fees between two practitioners is indefensible in theory and reprehensible in practice. Viewed from any and every angle, there is no argument that will validate the physician's attitude of auctioneer—selling out his patient to the highest bidder. Nor can the purchaser, by any specious argument, justify his part in so foul a transaction. The practice is rampant not only among those of smaller incomes, but with those enjoying large means as well. Poverty does not justify crime any more than low wages immorality; and certainly, cupidity lays a poor foundation for fair dealing, but builds well for moral strabismus.—Arthur J. Patek, M.D., *Wisconsin Med. Jour.*

SOME POINTS IN THE TREATMENT OF HYPERACIDITY

ESPECIALLY WITH REFERENCE TO THE USE OF HYDROGEN DIOXID *

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ST. LOUIS

Hyperacidity is usually considered a secretory neurosis of the gastric mucosa. This so-called neurosis is caused by reflex stimulation of the gastric mucosa by disease elsewhere in the body. We may therefore consider hyperacidity as a symptom of disease, rather than a disease itself.

The observant clinician often finds hyperacidity in the overworked, in those who lead sedentary lives with improper food and insufficient exercise, and in those who work under a great strain. He finds it as a common accompaniment of chronic appendicitis. It is frequently encountered in gall-stones, floating kidney, mobile cecum and movable and fallen transverse colon. Women with uterine misplacements, especially women with menstrual disorders, are well-known subjects of this disease. It is one of the early signs of beginning hyperthyroidism and incipient tuberculosis. Ear-troubles and eye-strain are frequently the cause of this condition. It is found in ulcer of the stomach in the majority of cases, and finally many cases are found in which the basic trouble is some nervous or some psychologic disturbance.

Nearly all workers in gastric disease agree that perhaps a majority of dyspepsias and indigestions are cases of hyperacidity.

In these cases of hyperacidity we are generally dealing with a complex affair and not a simple local chemical condition in the stomach. In no pathologic condition is a careful history, a complete detailed and repeated examination so important as in the treatment of this class of cases.

In the treatment of hyperacidity we must therefore first make a correct diagnosis, searching carefully for some cause of this condition. Often the removal of this cause removes the trouble, and the treatment of the chemical condition in the stomach is of minor importance.

In addition to these general or exciting causes, there is a local condition in the stomach itself which must be considered. Any person who has suffered from hyperacidity for any length of time will have certain pathologic changes in the gastric mucosa which must be treated. In a large percentage of these cases there is a concomitant hypersecretion or a continued secretion which must share our attention in the treatment. There is also a troublesome change in the gastric mucosa, called gastric hyperesthesia, which is of great importance to consider in the treatment. Along with these conditions we often find pylorospasm, hypermotility or gastroptosis. These conditions must also be considered in the treatment.

We may divide hyperacidities into the following classes:

1. Chemical hyperacidity with a normal quantity of gastric content after a Boas-Ewald test breakfast.

2. Chemical hyperacidity combined with hypersecretion or with a continued secretion. Here the quantity of gastric content is abnormally and constantly large.

3. Chemical hyperacidity combined with hypersecretion and hyperesthesia.

4. Clinical or symptom hyperacidity with hyperesthesia. In this class of cases we have all the subjective symptoms of a chemical hyperacidity. In these cases we find a normal total acidity, or even a subacidity. The symptoms are due to the hyperesthetic condition of the gastric mucosa which is painful in a normal or even subnormal acid content.

5. In this class we may find any one or a combination of the foregoing together with pylorospasm, hypermotility or peristaltic unrest.

The treatment of hyperacidity may be classified as follows:

1. Removal, if possible, of the general or exciting cause.

2. Treatment of the local condition: (*a*) dietetic; (*b*) medicinal; (*c*) physical therapy.

The local condition is for the most part a chemical affair, and therefore the dietary is a most important feature of this treatment. To diet successfully in any disease, but especially in gastric disease, a knowledge of the physiology and chemistry is important and necessary.

In the gastric juice the most important constituents are the protease enzyme, pepsin and the hydrochloric acid. The hydrochloric acid acts on the proteins, changing them into acid metaprotein, this constituting "combined" hydrochloric acid. This substance loses its distinctive acid properties and produces no chemical irritation to the gastric mucosa. This fact is of vital importance in dieting in hyperacidity cases. It is the free acid which produces the pain and discomfort, and not this combined acid.

Schüle[1] of Freiburg performed on himself the following experiment: On his forearm he cut off two fair-sized pieces of epidermis. On the one denuded surface he placed 0.2 per cent. hydrochloric acid. At once there was an excruciating burning pain. On the other denuded surface he placed 0.2 per cent. hydrochloric acid, which had been saturated with albumin. In this case there was no pain at all.

All dietaries, therefore, for the treatment of hyperacidity ought to include those foods rich in protein, such as eggs, meats in all forms, fish and cocoa, which have a high acid-combining power. These foods will combine with the excess acid and the pain and discomfort will tend to disappear. In many cases beautiful results are obtained; in others the results are not so good.

The explanation of this difference may be as follows:

1. Those patients who have a straight chemical hyperacidity with no hyperesthesia, hypersecretion, etc., do well on a high-protein diet.

2. Those foods which have the highest protein content are stimulating to the gastric mucosa, and more acid may be produced on account of this stimulation. By using a high-protein diet we may increase the quantity of hydrochloric acid instead of lessening it.

In support of this view we have the classification of foods by Bickel,[2] as follows:

1. Foods strongly stimulating to the mucosa: (*a*) raw and cooked meats; (*b*) coagulated albumin; (*c*) yolk of egg; (*d*) skim-milk and casein.

2. Foods which are only slightly stimulating: (*a*) full milk; (*b*) cream; (*c*) pure carbohydrates; (*d*) pure

* From the Department of Medicine in St. Louis University School of Medicine and the Alexian Brothers' Hospital.

1. Schüle: Ulcuskuren und Diät bei Hyperaciditas ventriculi, Arch. f. Verdauungskr., 1910, xvi, 588.

2. Bickel: Ein Diätschema für die Behandlung der Sekretionsstörungen des Magens, Verhandl. d. Balneologenkongresses, Berlin, 1910

uncoagulated albumin; (*e*) vegetables—not coarse; (*f*) sweet egg foods.

If we consider the acid-binding power as the essential factor in this diet we must give the foods of Class 1. If we wish a diet that has only a half or two-thirds the acid-combining power, but is far less stimulating to the mucosa, we shall use Class 2.

Any hyperacidity diet which is properly carried out is the same as the so-called ulcer diets. It has this difference, that the hyperacidity diet can more rapidly be changed into the normal or mixed diet. These ulcer diets are well known, the best-known two being the Leube and the Lenhartz diets. The Lenhartz diet is rich in proteins and as such furnishes a high acid-combining power, but it belongs to the class of foods which stimulate gastric secretions.

The Leube diet is in some respects a mixture of Class 1 and Class 2, and to my mind is the ideal diet for general use. I feel that it is especially adapted for more of the hyperacidity cases than the Lenhartz diet.

To diet these patients we must study our case carefully to see with what class of hyperacidity we are dealing. In this connection, however, it is well to remember that in a way each case is a law unto itself and will often need a diet which will not fall under any prescribed diet.

There is another thing of importance in dieting these patients: frequent feedings generally give better results than large feedings at longer intervals. As a rule, large feeding at regular meal-times, with small feedings in between and at bedtime, is ordinarily used.

Before a diet is commenced the physician ought to have clearly in mind a well-mapped scheme for giving the diet. This scheme should not be modified in any way except on order of the physician. It is only by perseverance on the part of both the physician and the patient that good results are obtained. We must remember that patients suffering with hyperacidity must be fed, and well fed. Too often they are underfed.

Recently the sodium chlorid content of the food in these dietaries has received considerable attention by dietitians. Laufer, Hayem, Ewald, Vincent and others have given experimental and clinical evidence that dechlorination is of great importance in reducing acidity.

Recently Richarts[3] strongly advocated the salt-free diet. He modified the salt-free regimen by emptying and washing out the stomach two and one-half hours after the chief meal. He also says that sodium phosphate or sodium bromid may be substituted for the chlorid in the food, at least to some extent.

From personal experience with a few patients on whom I carried out this method, I believe that the salt-free diet may be of great aid in the treatment of these cases.

The medicinal treatment must, in most cases, accompany all dietary treatment. This medicinal treatment in some cases is simple and in others more difficult. In those cases in which we have a straight chemical hyperacidity with no complications, such as hypersecretion, continued secretion or hyperesthesia, simple antacid treatment, with sodium bicarbonate and calcined magnesia, will often work wonders. I have the patients take this mixture only when the discomfort appears. Of late, I have used bismuth subcarbonate with the calcined magnesia in place of the sodium bicarbonate. My reason for this is that the action of the acid on sodium bicarbonate produces a large quantity of sodium chlorid which we wish to decrease.

In those cases complicated with hypersecretion, continued secretion or hyperesthesia, we must use the antacid treatment as before, but in addition to this, the use of oils, etc., as demulcents and the use of atropin or belladonna, anesthesin and bromids for their action on the gastric mucosa is recommended. In these cases when the stomach does not empty properly the use of Carlsbad salt before breakfast for flushing out the stomach and its action on the bowels should be used.

In 1908 Petri[4] found that hydrogen peroxid in rather large quantities (300 c.c. of 0.5 per cent. solution) on an empty stomach has a great power of lowering the acid content of the stomach. He recommended its use in hyperacidity.

Poly[5] of Würzburg in 1910 used hydrogen peroxid in forty cases of hyperacidity and recommends it highly. He recommends the large quantities used by Petri. It causes some nausea but reduces the acidity and the symptoms.

Hall[6] of Boston treated thirty patients and says that there is a lowered acidity, a gain in weight, and subsidence of the symptoms. He says that it is another aid to our treatment.

Winternitz[7] says that it reduces acidity, but not for long. He has discarded its use.

In 1909 I repeated Petri's work on normal stomachs and found his work true. I then tried the hydrogen peroxid in hyperacidity cases in order to test the following points:

First, What is the optimum concentration or dose to use? I found that small quantities, as 4 or 8 c.c., before meals, once or twice a day, had but little effect, the acidity being but slightly lowered. Fifteen c.c. began to have a decided effect on lowering the acidity, but the patients complain of nausea after taking this amount. I gradually increased the dose up to 50 c.c., which is Petri's amount. Petri's dose of 300 c.c. of 0.5 per cent. solution is decidedly unpleasant to the patient. Giving it in almond-water, as Poly suggested, lessens this trouble.

In the second place, I wished to determine whether the effect of the hydrogen peroxid was merely temporary or somewhat permanent. A patient was given a Boas-Ewald test breakfast and the total acidity, the free hydrochloric acid and the pepsin content determined. Before the evening meal 300 c.c. of a 0.5 per cent. solution was given the patient. The next morning a Boas-Ewald meal was given, using 300 c.c. of 0.5 per cent. peroxid instead of water. In nearly every case the free acid is greatly lowered, or even absent. The pepsin content suffers an almost parallel reduction. The patient was then given the peroxid before luncheon and before dinner. The next morning he was given the Boas-Ewald test breakfast with water. The free acid and pepsin content were generally normal or nearly so. This experiment was repeated many times and the results were always the same. From this experiment we learn that the action of the peroxid is only temporary and

3. Richarts: Zur Frage der Chlorentziehung bei Hypersekretion des Magens, Deutsch. med. Wchnschr., 1912, xxxviii, 697.

4. Petri: Ueber den Einfluss Wasserstoffsuperoxyds auf die Sekretion des Magens, Arch. f. Verdauungskr., 1908, xiv, 479.

5. Poly: Klinische und Experimentelle Erfahrungen über den Einfluss des Wasserstoffsuperoxyds auf Hyperchlorhydrien und auf die Magensekretion, Arch. f. Verdauungskr., 1910, xvi, 700.

6. Hall, G. W.: The Treatment of Gastric Hyperacidity with Hydrogen Dioxide, Boston Med. and Surg. Jour., June 15, 1911, p. 846.

7. Winternitz: Zur medikamentösen Therapie der Hyperazidität insbesonders über die Anwendung des Wasserstoffsuperoxyds, Deutsch. med. Wchnschr., 1911, xxxvii, 1390.

perhaps is effective only so long as it is in the stomach; in other words, its effect is purely local.

In the third place I tried to determine whether or not large doses of hydrogen peroxid might be injurious to the gastric mucosa when 300 c.c. of a 0.5 per cent. solution of peroxid is given for a long period of time. Large amounts of mucus are nearly always found in the stomach content when such large quantities of peroxid are given. This fact, together with the marked decrease or total absence of the free acid and pepsin, makes one think of the findings in atrophic gastritis. It might be possible for real injury to be produced by a long-continued use of such a substance. I carried out a number of experiments by giving the peroxid for some weeks. In two cases I continued the treatment for four weeks. In these persons it took days for the content to come back to the normal when the peroxid was discontinued. When it was given for only a day or two the return to normal was prompt. It is possible that a longer use would do lasting damage.

On account of the large amount of the peroxid required and its temporary effect, together with the unpleasant effect on the patient and the possibility of doing harm by a long-continued use, I have discarded its use as a therapeutic agent in hyperacidity.

Physical therapy, such as gastric lavage, is important. I am firmly convinced that washing out the stomach is of distinct value as an aid to the diet and the medicinal treatment in severe cases.

Of another form of physical therapy in hyperacidity, namely, exercise, I cannot speak too highly. I mean by this a graded, systematic course of exercise under the direct charge of the physician. Many of these patients come to us underfed, weak, nervous and flabby-muscled. They cannot do their daily task without almost complete exhaustion. Some other patients come to us fat, rotund, good livers and short of breath.

Both of these classes need a systematic course of exercise. These exercises harden muscles, improve the circulation, increase the appetite, and, in fact, often work wonders with our cases of hyperacidity.

These exercises properly given in the morning and in the evening before bedtime tend to employ the stomach, and thus a possible chemical irritation is removed.

The treatment of hyperacidity is a combination of diet, medicine and physical therapy. In most cases not one alone will do the work, but a painstaking, wise physician using all three equally, or emphasizing now one, now the other, will obtain results; and that is what we are after.

1402 South Grand Avenue.

The Price of Community Health.—Better community health is an issue between money and morals, between dollars and men; not always clearly perceived, frequently imperfectly understood, but nevertheless, when brought down to the last analysis, we find it too often to be ignorance and greed against health and intelligence. We know now that health is a purchasable commodity. We can prevent disease if we are willing to pay the price. Clean water, clean milk, clean streets, clean houses, clean schools, clean churches and clean people may all be had if the price is paid. It is to-day entirely up to the community whether it wishes to be clean and healthy or filthy and diseased. The method by which such rights can be secured is neither difficult nor obscure. The steps are simple and are applicable by the average layman or the village physician to the smallest village or rural community.—Eugene H. Porter, M.D., *Month. Bull. New York State Dept. Health.*

PRESENCE OF DIALYZABLE PRODUCTS REACTING TO ABDERHALDEN'S NINHYDRIN IN THE URINE OF PREGNANT WOMEN

A PRELIMINARY REPORT*

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In 1912 Abderhalden published results of experiments tending to show that in the blood-serum of pregnant animals and women there was a ferment which in the presence of specific placental tissue had the property of digesting the placental albumin. The products of this proteolytic digestion could be dialyzed through parchment and recognized by delicate tests for peptones and amino-acids. He used a substance, triketohydrindenhydrate, sold under the name of "ninhydrin," which enabled him to find not only peptones but also amino-acids. His work was taken up by observers especially in Germany and America. Many confirmatory results have been obtained as well as some results distinctly unfavorable.

In a series of cases at the Milwaukee County Hospital, our results were very contradictory. It occurred to us that if there were a specific ferment in the blood-serum which was elaborated to split up the products derived from the placenta, syncytium especially, there should be also in the blood-waste, products of the metabolic activity of the growing fetus. These substances had to leave the body by some route and the most logical route was the urinary excretion. These products should be peptones and amino-acids, they should dialyze out and one should then be able to find them by means of the ninhydrin reaction in the dialysate. It was found that actually such is the case. At first urine and pieces of boiled placenta were placed in one dialyzer, and urine alone in a second dialyzer. No difference was noted in the color reaction obtained with ninhydrin. Boiling the urine made no difference. Urine containing more than a trace of albumin boiled and filtered to clear of albumin and placed in the dialyzer showed in the reaction of the dialysate to ninhydrin no difference from the untreated specimen of urine.

The extreme difficulty of obtaining material enables me to report only seventeen cases; four were tested twice. Among these are two particularly suggestive cases, Nos. 4 and 13 in Table 1.

TABLE 1.—URINES, PREGNANCY

No.	Reaction	Albumin	Ninhydrin	Months Pregnant	Remarks
1	•	—	+ + + +	9	
2	•	—	+ + + +	4½	
3	•	—	+ + + +	6	
4	•	—	+	5½	Toxemia
	†	±	+ +	5¾	Well
5	•	—	+	7	Mild toxemia
6	•	—	+ + + +	7	
7	•	±	—	2	
8	•	—	+ + + +	8	
9	•	—	+ + + +	8½	
10	•	—	+ + +	4	
11	•	+	+ + + +	8	
	•	—	+ + + +	8½	
12	•	—	+ + +	7½	
13	•	—	+	9	Headache
	•	—	+ + + +	9	No headache
	•	±	+ + + +	9	Feet swollen
14	•	—	+ + + +	8	
15	•	—	+ + + +	8	
16	•	±	+ + +	6	
17	•	—	+ + + +	7	

• Acid. † Alkaline. + Present. — Absent. ± Trace.

* From the Medical Clinic and Laboratory of the Milwaukee County Hospital.

The first patient for five and a half months had shown a normal course. She suddenly developed headache, and the blood-pressure (systolic) was 160 mm. The dialysate tested with ninhydrin showed only a faint blue color. Eight days later she was quite well, blood-pressure 140 mm., and her physician obtained for me a second specimen. The dialysate showed a distinct increase in color and presumably an increase in the quantity of dialyzable proteolytic cleavage products. The other patient was about at term when she entered the hospital. One day there was a slight headache. The blood-pressure was 175 systolic, 120 diastolic. The ninhydrin reaction was slight. Three days later she was feeling quite well and the reaction was intense blue. The blood-pressure was the same. This suggests at once the possibility of forestalling toxemia of pregnancy by the test, and apparently suggests the retention of some fetal products due possibly to a temporary functional incapacity of the kidneys. As will be seen from Table 1, every case of pregnancy showed the presence of dialyzable substances in the urine except one. The pregnancy here was of only two months' duration. At four and a half months the reaction with ninhydrin gives an intense blue color. In order to show that in normal urine there are no dialyzable substances which give a positive test with ninhydrin, a number of urines from healthy persons were tested. These gave no color reaction. Solutions of urea were made and dialyzed. The dialysate in these cases showed no reaction.

In a few cases (all the material available) an attempt was made to determine for how long a time the urine contained these substances. In the involution of the uterus it is possible that waste protein cleavage-products are excreted by the body.

TABLE 2.—URINES, PUERPERIUM

No.	Reaction	Albumin	Ninhydrin	Days after Delivery
1	•	±	—	11
2	•	—	+	14
3	•	—		
	•	+	+++	8
			+	13
4	•	+	+	13
	•			16
5	•	±	—	16
	•	—	—	27
6	•	±	+	4
	•	—	—	16
7	•	±	+	5
	•	±	+	17

* Acid. + Present. — Absent. ± Trace.

Table 2 shows that the eleventh day was the earliest to show a negative reaction, while one still showed a faint reaction on the seventeenth day.

The material available to me is so scanty that this is put forth as a suggestive lead for large obstetric clinics to follow.

A SERUM REACTION AS AN AID IN THE DIAGNOSIS OF CANCER

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The discovery by Abderhalden of the presence of proteolytic ferments in the serum of pregnant women and his conclusion that it might be possible to find similar ferments in the serums of persons suffering from other conditions actuated me to look for a specific ferment in the serum of cancer patients.

The principle of the test is that of Abderhalden's test for pregnancy. The reaction depends on the presence of a specific ferment which has the power of digesting its corresponding albumin. In my experiments I use Schleich and Schnell diffusion thimbles No. 579, which have been tested for their permeability to peptones and impermeability to colloids, using only those permitting peptone and not colloids to pass. The cancer albumin is obtained by cutting up pieces of carcinoma of the breast and boiling them for half an hour, after which they are put into chloroform-water and kept on ice.

A small piece of the prepared cancer albumin is added to the dialyzing thimble with 2 c.c. of suspected serum. The thimble is then put into a glass cylinder containing about 10 c.c. of sterile distilled water. Thimble 2 contains serum alone and Thimble 3 contains cancer albumin and distilled water. Both these thimbles are put into cylinders with distilled water, same as No. 1. All of the serums, as well as the water surrounding them, are then covered with a layer of toluol and incubated for sixteen hours, at the end of which time 5 c.c. of distilled water of each cylinder is tested with ninhydrin for the presence of peptone, by boiling in a water bath for ten minutes.

If the tested serum be that of a cancer patient, Cylinder 1 will assume a deep violet color. Cylinders 2 and 3 should remain colorless. Should there be discoloration in Cylinders 2 and 3, the reaction must be discarded, as the serum was probably contaminated by bacteria, contained hemoglobin or amido-acids. If the serum is negative the water in all three cylinders should remain colorless.

If the reaction is positive, Tube 1 is retested against fresh serum, or if the test is negative, a retest is made against peptone, for the purpose of insuring against defective thimbles.

The blood used must be chemically as well as bacteriologically clean. About 10 c.c. of blood are required and should be obtained from one of the veins of the elbow in the same manner as for the Wassermann test. After obtaining the blood, great care must be used not to shake the vial containing it, as shaking is apt to dissolve some of the hemoglobin, and the presence of hemoglobin in the serum invalidates the test. Blood more than twenty-four hours old, or taken after meals, cannot be used for the test.

Through the kindness of Drs. E. J. Ill, George N. Waite, L. L. Davidson, E. Mautner, I. Gluckman and others I have been able to examine the serums of sixty-one cases, consisting of the following: 19 cases of carcinoma, 7 of diabetes, 7 of syphilis, 4 of ulcer of the stomach, 2 of pregnancy, 1 of extra-uterine pregnancy, 1 of furunculosis, 2 of fibroids, 1 of lipoma, 1 of chronic appendicitis, 1 of cholecystitis, 3 of carcinoma (post-operative) and five other cases the results of which were confusing owing to the age of the serum. All of the cancer cases gave a positive reaction. The three postoperative cases in which the patients operated on two, four and five years ago, and that do not now give any clinical symptoms of recurrence, gave negative reactions. In this connection it is interesting to note that one of these patients was operated on by Dr. George N. Waite five years ago for carcinoma of the breast. The patient was again operated on two weeks ago for an extra-uterine pregnancy. In my examination the serum gave a positive reaction for pregnancy and negative for cancer. In two cases of cancer of the breast, in one of which the

patient was operated on two and the other nine months ago, the reaction was still positive.

All the other cases gave negative reactions with the exceptions of the benign tumor of the breast, one case of fibroid and one case of diabetes. I believe that the erroneous findings in these cases were due to faulty technic which I am now trying to eliminate.

All cases of carcinoma examined were cases in which clinical and microscopic evidence of malignancy were present.

In view of these findings the following questions present themselves:

1. Is the reaction present in all cases of carcinoma?
2. What other, if any, conditions will give positive reactions?
3. How early will this test give a positive reaction?
4. How soon does the reaction disappear after the operation?
5. Will reappearance of the reaction after operation mean recurrence?
6. Will persistence of the reaction after operation have any bearing on the prognosis?
7. Will this reaction prove a precancerous stage?

In conclusion I wish to say that even with this limited number of tests and in their primitive state, I have found a proteolytic ferment in the blood of cancer patients. Whether or not this ferment is specific and constant I am unable to say at this time. Nevertheless, an analysis of some of my cases shows that in at least three undoubted cases of cancer in which the patients were operated on the reactions were negative after a lapse of years, which would indicate that with the removal of the growth the specific ferment is not needed in the blood and disappears. Two other cases which still give positive reactions are of no significance at this time as not all the cancer tissue may have been removed by operation, or time enough may not have elapsed for the ferment to disappear.

I think that we would be justified in using this test for obscure stomach cases, and if the test should prove of specific value periodic examination of women approaching the menopause would be the means of saving the lives of untold women.

549 High Street.

INVESTIGATION OF THE PREVALENCE OF MALARIAL FEVERS IN THE UNITED STATES BY THE UNITED STATES PUBLIC HEALTH SERVICE

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Under orders of the Surgeon-General of the United States Public Health Service, dated Feb. 28, 1912, I was directed to make a study of the prevalence of malarial fevers in the state of Alabama; and July 8, 1913, the states of Arkansas, Mississippi, Georgia, Florida, South Carolina and later North Carolina were included in this work. A visit was made to the officers of the boards of health of all the states in which the studies were to be made, and their cooperation was obtained.

The work outlined in the first order Feb. 28, 1912, covered the following points:

1. The localities in which malarial fever is endemic.
2. The relative prevalence of the disease in the various localities.
3. The types of malarial infection present in the several localities.
4. The distribution of anopheline mosquitoes.
5. The relative prevalence of mosquitoes in the several localities, with special reference to the anophelines.

This work of investigation was pursued according to the following methods:

I. STATISTICAL INVESTIGATION

Circular postal cards with attached reply cards were sent out to all physicians in the states of Alabama, Arkansas, Florida, Georgia, Mississippi and South Carolina, calling for information for the months of August, September and October, 1913, which was to bear mainly on the morbidity of the disease, the species of mosquitoes, their breeding-places, and the prophylatic measures adopted in each place. The replies received have been filed according to counties. These are now being tabulated and will form part of a report. This work of securing information will be continued during the coming year, with a view to obtaining not only the geographic distribution and prevalence of the disease, but also its seasonal prevalence, and will eventually be made to cover the entire United States.

A number of letters were received from physicians which gave more detailed information than the postal card called for, and many letters were received asking for general information on the subject of malaria.

The tabulations will show in each county for each month: the number of physicians reporting; number of towns, cities or places represented; number of patients, by color, treated for malaria; types of infection; types confirmed microscopically; number of physicians using the microscope; number of cases occurring in children under the age of 15; number of chronic cases; presence of mosquitoes and the species, and prophylactic measures adopted.

II. TYPES OF MALARIAL INFECTION

In order to ascertain definitely the types of malaria, it was determined to make blood examinations from both active and chronic cases. A circular letter was addressed to a number of physicians in each county in the state of Alabama (Mobile County excepted), requesting them to send blood-smears from active and chronic cases, and stating that slides, slide-boxes, history blanks calling for names, age, sex, color, nativity, address, length of residence, previous history of malaria, remarks and date, and franks for returning such slides and information, would be furnished. The foregoing material and a letter of instruction for making thin and thick blood-smears was sent to those physicians who replied favorably.

Accordingly, it was expected that blood-smears from every county in the state would be obtained; but comparatively few physicians responded, and only eleven counties of the sixty-six have been heard from. Those physicians who sent in specimens were immediately informed of the result of the examination. Tertian and estivo-autumnal types were confirmed, and not a single quartan specimen was submitted.

III. DISTRIBUTION OF ANOPHELES MOSQUITOES

Physicians in every county in Alabama were asked by circular letter to send in specimens of mosquitoes, particularly anopheles, in vials and mailing cases which, with franks for return, were furnished.

The specimens submitted were of *Culex*, *Aëdes calopus*, *Anopheles quadrimaculatus*, *A. punctipennis*, *A. crucians*, *Megarrhinus rutilus*, Coq. (classified by Dr. L. O. Howard, Chief of the Bureau of Entomology, Department of Agriculture), and *Psorophora ciliata*.

IV. SURVEYS AND MALARIAL INDEX

Surveys this year were made in selected localities in Arkansas, Alabama and North Carolina, and a malarial index was made by the collection of blood specimens from all persons who submitted themselves for examination. The surveys included a study of the geographic and climatic conditions of the locality, the social, hygienic and economic conditions of the community and the industries. The breeding-places of the anopheles were searched for and their breeding conditions were studied. The health officer and officials were informed of the findings in each place visited, and measures for the eradication of the breeding-places were advised. Some interesting observations were made, particularly of the fact that the mosquitoes did not breed in ditches where waste, such as dye-water or coal-gas water was discharged, and that such discharges might be diverted to the advantage of other places in which mosquitoes were breeding.

The importance of making malaria surveys is becoming of interest to the public, especially in places where large industries are impounding water for power and for purposes of public supply. On this account, condemnation proceedings and suits for damages are being filed in the courts, and when the reasons for legal action have been sought, those who bring suit have usually been found to be ignorant of the method of transmission of the disease; while the breeding-places of anopheles are ordinarily to be found within a short distance of the homes. Particularly is this true in rural districts. The impounded waters are, as a rule, free from breeding mosquitoes, but occasionally a small breeding-place, which might serve as a constant source of supply of mosquitoes, may be found on the banks. These are, generally, far removed from any homes. In some instances, undoubtedly, the impounding of waters has been beneficial.

MALARIAL INDEX

Blood-smears were obtained from 3,602 persons living in seven places in North Carolina. Three hundred and thirty-eight of these were secured through the assistance of Drs. Pridgen, Leonard and Maynard, at Knott's Island; 802 from five places in Arkansas, 52 of them through the assistance of Dr. H. K. Thibault at Scott, and 664 from four places in Alabama, the total being 5,068. There were also 67 obtained with the assistance of Dr. Boyd, city health officer at Columbia, South Carolina.

One thick and one thin blood-smear was made and a history was obtained from each person examined. The blood-smears were inspected to determine the presence of the parasite, the type of infection, the blood changes which might be attributable to malarial infection, such as leukopenia, the presence of pigment normoblasts, increase of mononuclear leukocytes and poikilocytosis. Any other blood changes were noted, as eosinophilia, and other types of infection such as are shown by the presence of filaria or *Spirochaeta obermeieri*. The technic employed has been greatly simplified for expeditious work, and has been described and submitted for publication in the Public Health Reports.

V. EDUCATIONAL WORK

Under the auspices of the state boards of health, arrangements were made for delivering public addresses and lectures at schools on the subject of malarial fevers, their method of spread and prevention. Lantern-slides were sometimes used. Specimens of larvae and pupae collected in the locality were exhibited to show the different species and demonstrations were given to show how anopheles may be identified. The local conditions were invariably discussed. In several places in North Carolina classes of schoolchildren of the higher grades were taken out on a search for mosquito breeding-places and taught to distinguish the anopheles larvae. In one place these pupils were required to write a composition on the subject of mosquitoes, their characteristics in different stages of development, and the identification of the anopheles.

The Public Health Service is preparing exhibits on the subject of mosquitoes and malaria to be used in these lectures, and photographs are being made and collected which will be reproduced in lantern-slides.

VI. COMMUNITY ANTIMALARIAL WORK

The application of different methods to be adopted were discussed during the lectures, with special reference to local conditions. Drainage, screening and the use of quinin were advised, and the practical and economic benefits to be derived were set forth and illustrated by examples derived from the adoption of these measures in different portions of this country.

The greatest difficulty lies in the question of cost and funds. On this account the service is enlarging the staff of workers in order that proper measures and estimates may be submitted for consideration, when a community desires to undertake the work of control or eradication. The supervision of such work, would, of course, be undertaken only in cooperation with the state boards of health. There are now two communities in North Carolina which are planning to do this work under the direction of the state board of health.

VII. PERSONNEL

An office and laboratory have been established at Mobile, Alabama, where this work is being conducted. The personnel comprises one surgeon, one assistant surgeon, two technical assistants, one biologist and two clerks. Similar work is being conducted for the state of Louisiana at New Orleans, under the direction of Surgeon J. H. White and one assistant surgeon.

Senior Surgeon H. R. Carter of Baltimore, Maryland, has also been engaged in making surveys in North Carolina, and is devoting much time to this subject.

Egyptian Medicine.—Herodotus declares Egypt to be the healthiest of countries, but filled with physicians of whom "one treats only the diseases of the eye, another those of the head, the teeth, the abdomen or the internal organs." Diodorus says that Egyptian physicians looked on excessive consumption of food as the main cause of disease, cured chiefly through fasting, emetics and purgatives and were under obligation to treat soldiers and travelers without fee. The same author remarks that the unsuccessful issue of a course of treatment conducted on recognized and prescribed lines was not to be laid to the blame of the physicians, whereas independent procedure, going outside the bounds of tradition, carried the death penalty with it, in case of a fatal result. According to Clement of Alexandria, the medical science of the Egyptians was contained in the forty-two Hermetic books whose authorship is ascribed to the god Thot (Hermes of the Greeks).—Neuberger, History of Medicine.

VALUE OF ROENTGEN ANALYSIS OF GASTRO-INTESTINAL TRACT IN SOME TYPES OF SO-CALLED FUNCTIONAL NERVOUS DISORDERS

A PRELIMINARY REPORT *

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AND
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We have limited the type of cases to that of genuine epilepsy solely in order that the nervous type of disorder under study may be exact and without question. Exact analysis of the digestion of the epileptic has been attempted for years. It matters little, as to the importance of such study, whether one holds that the defective digestion in epilepsy is a result or a cause of the nervous disorder. Definite knowledge of whatever defect in digestion obtains in an epileptic is worthy of our best efforts. Any method of investigation which will throw light on the subject, therefore, should be welcomed.

For many years it has been supposed that constipation, intestinal catarrh and any of the many forms of mucomembranous colitis found in epilepties were due to a secretory defect of some kind, or that there was an inherent defect in peristalsis; but only recently have genuine attempts been made to analyze precisely by means of the Roentgen ray some of the mechanical or dynamic gastro-intestinal defects in epileptics. Here and there one finds a case so analyzed treated surgically with varying results reported. At the outset we wish to disclaim that we have approached our subject with any particular bias as to curing the patient of epilepsy. The analysis was not undertaken with the idea of deciding whether or not a surgical cure of the intestinal defect and even the epilepsy itself could be accomplished, but the study was made solely to determine what mechanical defects obtain in fairly classic cases of epileptics suffering from long-standing and obscure indigestion.

It is common knowledge that many have striven to translate supposed mechanical defects in the gastro-intestinal tube into terms of so-called intestinal auto-intoxication. The authors of such attempts deal with theories solely, assume chemical interpretations of metabolism which have little or no clinical proof, or push their deductions to unwarrantable conclusions. It would seem reasonable that by means of the Roentgen ray one might determine the points or parts most affected in the gastro-intestinal tract, follow this determination by dietetic, hygienic and other special medicaments of massage, electricity and like remedies, and overcome the defective state of digestion of epileptics, thus bettering their general health and perhaps modifying favorably the course of the convulsive disorder itself. Subsequent Roentgen analysis in the individual case might prove exactly what had taken place by such treatment. Even though physical and hygienic measures of treatment be found inefficacious, such a system of study and therapy might still find legitimate use in conservative practice until one determined on more drastic surgical relief.

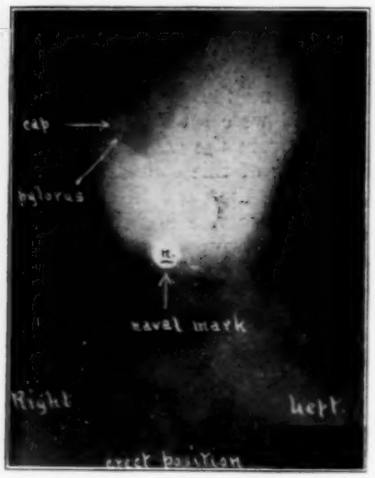


Fig. 1.—One type of normal position of stomach—erect.

Fig. 2.—One type of normal position of colon.

Fig. 3.—Case 2. Gastroptosis with ptosis of hepatic flexure and transverse colon.

With the foregoing view in mind, one of us (Clark) proposed a Roentgen analysis of a small but select material to determine the value of the procedure for diagnostic and therapeutic purposes. Ten cases were therefore selected from private practice in which the epileptic convulsions seemed most dependent on or bore some relation to a digestive disorder. In all, the premonitory symptoms of extreme constipation, furred tongue, headache, malaise, gaseous fermentation in stomach and intestines and mucous and membranous discharges from the bowels had been chronic before attacks, and in many cases existed more or less throughout the interparoxysmal state. Both sexes, of ages varying from 10 to 48 years, were under study.

TECHNIC

The examinations in this series of cases were made in the following manner: After fourteen hours of fasting, a meal was given the patient consisting of 2 ounces of bismuth subcarbonate in 12 ounces of buttermilk, and the stomach exposures were immediately made in both the prone and the erect positions. Nothing else was

* Read at the Annual Meeting of the American Neurological Association, Washington, May 6, 1913.

taken by the stomach until the six-hour period was made for gastric retention. The patient was then allowed to take regular meals. At twenty-four hours, the examination was made also in the prone and erect positions, and later at forty-eight hours if possible. Most of these patients felt so miserable at the end of twenty-four hours that it was thought wise not to continue further. One of us (Busby) personally has taken large amounts of bismuth without feeling any ill effects.

The first consideration is, What is the normal appearance of the gastro-intestinal tract as revealed by roentgenoscopy? We must not be too willing to digress from the text-books, for they are the results of conclusive work made on the gastro-intestinal tract normal and *in situ*. One can readily understand that, in the erect position of man, the filled, functionating tract would by gravitation severely test the efficiency of this more or less poorly supported part of the body. Because the roentgenographic examinations show a greater number of variations than we have been cognizant of heretofore we must not infer that they are any the less abnormal. Mechanical difficulties are made possible and it is the active, functionating gastro-intestinal tract with which we have to deal.

In regard to the weight of the bismuth given, 2 or 4 ounces would not be expected to make any material difference when one stops to consider the weight of an ordinary meal. The next consideration is, How many of the apparently normal cases which we examine for controls are really normal? For it is thought that many of these postural conditions date back many years, even so far as childhood, and exist for long periods before causing trouble. It is also perfectly true that some can exist indefinitely without causing symptoms that are diagnosable as a disease entity. Then again, congenital malformations may be found. Experience has taught us that a difference of from 2 to 3 inches may be allowed between the prone and erect positions.

Two roentgenograms, in which the stomach and colon appear to be as nearly the text-book type as possible, are given to contrast those in the other pathologic cases.[1] Figure 1 shows one type of normal stomach, erect position. In Figure 2 one type of normal colon is shown by injection.

The Roentgen findings in ten cases of epilepsy are as follows:

CASE 1.—G. R., female, single, aged 17, has had attacks for five and one-half years. Roentgenoscopy with the patient in the prone position reveals the stomach normal in size, position and outline with a plain pylorus and good cap; in the erect position a slight ptosis is revealed with the pylorus and cap hazy. Six hours later roentgenoscopy reveals considerable gastric retention with good cap. There are patches of bismuth in the small intestine with a larger quantity in the ileum and ascending colon. The cecum is very low. At the twenty-four-hour period, roentgenoscopy reveals the hepatic and splenic flexures in good position with a large amount of bismuth in the low cecum and in the ascending colon. Bismuth also appears in the sigmoid and rectum. At the twenty-four-hour interval roentgenoscopy in the erect position reveals a slight dropping of the flexures, not abnormal. There is some gas in each. The cecum is again seen very low.

Summary.—The stomach retention would appear to be the result of atonia rather than obstruction. Some ptosis is usually found with atonia. The low cecum which is apt to retain food for a long period may very possibly cause sigmoid interference when filled.

Fig. 4.—Case 4. Coloptosis.

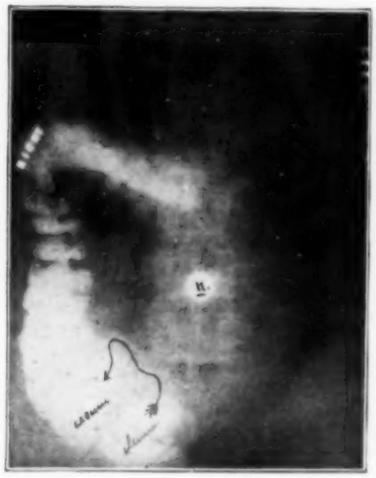


Fig. 5.—Case 6. Ileac stasis at twenty-four hours; prone.

Fig. 6.—Case 7. Ptosis of hepatic flexure and ascending colon; twenty-four hours prone.

CASE 2.—A. D., female, single, aged 22, has had attacks for six and one-half years. Roentgenoscopy with the patient in the prone position reveals a large stomach moderately low and rather atonic in shape with a normal pylorus and large cap; the erect position shows better the atonic shape with a considerable gastroptosis (Fig. 3). At the seven-hour period roentgenoscopy shows no gastric retention. At the twenty-four-hour period roentgenoscopy reveals both flexures low with a low transverse colon and a distinct looping at the hepatic flexure.

Summary.—This case shows a marked gastroptosis. There is a coloptosis of moderate degree.

CASE 3.—J. L. D., male, married, aged 46, has had attacks for seven years. Roentgenoscopy with the patient in the prone position reveals the stomach negative in shape, size, and normal position. Six hours later roentgenoscopy shows no gastric retention. At the twenty-four-hour interval, roentgenoscopy reveals a low hepatic flexure with the transverse colon well within the pelvis. At the forty-eight-hour period the bismuth is shown still in the low hepatic flexure and transverse colon.

Summary.—This case shows a ptosis of the hepatic flexure and transverse colon.

1. We should prefer to show each phase of the individual cases by illustration; but owing to limited space, only a few roentgenograms are given.

CASE 4.—A. R., male, single, aged 37, has had attacks for three years. Roentgenoscopy with the patient in the prone position reveals a ptosis of moderate degree. The contour is negative except the pylorus, but other roentgenograms show that this is also negative; in the erect position there is a gastroptosis of marked degree. The stomach in this position gives evidence in its shape of being atonic. At the seven-hour period, roentgenoscopy reveals a slight gastric retention. Bismuth is seen in the ascending and transverse colon. At the twenty-four-hour interval bismuth appears in the entire colon and the flexures are in normal position. Roentgenoscopy in the erect position shows a marked coloptosis with the flexures very low (Fig. 4).

Summary.—This case demonstrates a marked visceroptosis.

CASE 5.—W. M., male, single, aged 25, has had attacks for two and one-half years. Roentgenoscopy with the patient in the prone position reveals the stomach in normal position with negative pylorus and cap; the size is rather large and suggests atonia. Seven hours later there is a slight amount of gastric retention with bismuth in the ileum, ascending and transverse colon, and also a looping at the hepatic flexure. At the twenty-four-hour interval the entire colon is seen with more bismuth in the ascending portion. The ragged appearance at the hepatic flexure suggests adhesions. At the twenty-four-hour interval, roentgenoscopy in the erect position reveals a slight dropping of both the hepatic and splenic flexures. By rectal injection the splenic flexure is replaced in its normal position by the force of the injection and it also brings out the loop at the hepatic flexure with its ragged appearance.

Fig. 7.—Case 8. Ptosis and looping of hepatic flexure. Ragged pylorus.

Fig. 8.—Case 9. Gastroptosis.

Summary.—This case shows slight gastric atonia with indications of trouble at the hepatic flexure. We also consider it a case of moderate coloptosis.

CASE 6.—Mrs. D. M., married, aged 45, has had attacks for two years. Roentgenoscopy with the patient in the prone position reveals the stomach negative in shape, size and normal position; in the erect position a dropping which is hardly more than normal is revealed. Six hours later, roentgenoscopy reveals no gastric retention, with bismuth in the ascending and part of the descending colon. At the twenty-four-hour period, roentgenoscopy reveals decided ileac stasis which should never appear at this late period. Bismuth is shown in the ileum, ascending colon and part of the transverse colon (Fig. 5). At the forty-eight-hour interval a normal colon is seen with the exception of a long transverse portion. At the forty-eight-hour interval roentgenoscopy in the erect position reveals a dropping of the hepatic flexure and transverse colon with no apparent looping.

Summary.—This case shows a definite ileac stasis with a ptosis of the hepatic flexure.

CASE 7.—Mrs. C. J., married, aged 48, has had attacks for ten years. Roentgenoscopy with the patient in the prone position reveals the stomach long, moderately low, a negative pylorus and a very high duodenum; in the erect position, this organ is converted into more of the water-trap variety; it is moderately low with the duodenum again remaining in the same high fixed position as in the prone position. Twenty-four hours later the prone position reveals the ascending colon ptosed on itself to such a degree that the hepatic flexure is in the pelvis. At the twenty-four-hour interval the erect position reveals the entire bismuth accumulated in this ptosed portion of the colon, showing well how a marked degree of stasis may occur here (Fig. 6). At the forty-eight-hour interval, roentgenoscopy reveals the colon attempting to straighten itself out. The cecum is *in situ*, but the entire ascending colon, hepatic flexure and part of the transverse colon are in the pelvis.

Summary.—This case shows possible gastric trouble with definite ptosis of the first half of the colon and a fairly high splenic flexure.

CASE 8.—J. R., female, aged 10, has had attacks six and one-half years. Roentgenoscopy with the patient in the prone position reveals the stomach rather large for a child, and the pylorus is ragged in appearance, which may be due to thickening, spasm or adhesions. This peculiar pylorus is evident in all of the exposures made. There is a ptosis and looping at the hepatic flexures; in the erect position only a comparative dropping and the ragged pylorus are again evident (Fig. 7). Seven hours later, roentgenoscopy reveals a moderate amount of gastric retention, with bismuth in the ileum, ascending and transverse colon. At the twenty-four-hour interval bismuth is revealed in the ascending and transverse colon with a rather low hepatic flexure. The splenic flexure is situated well up as shown by gas. There is bismuth in the sigmoid and rectum. At the forty-eight-hour interval, roentgenoscopy reveals bismuth in the ascending and transverse colon with gas in the splenic flexure and also a large amount in the dilated sigmoid and rectum. This shows how the low transverse colon may cling on the high splenic flexure which here is filled with gas.

Summary.—The gastric retention rather suggests an obstructive interference of moderate degree on account of the peculiar pylorus. The position is good from a point of drainage. The pylorus can be watched in future examinations. The fact that the bismuth remains in the low ascending and transverse colon would suggest a valvular action in the high splenic flexure due to lack of muscular tone and dragging on this fixed point. The sigmoid and rectum show atonia and dilatation.

CASE 9.—C. D., female, single, aged 25, has had attacks for eight years. Roentgenoscopy with the patient in the prone position reveals a moderate gastroptosis and a very large stomach, negative in outline; in the erect position, a marked gastroptosis is shown (Fig. 8). At the six-hour period there is no gastric retention. At the twenty-four-hour period roentgenoscopy in the prone position shows a marked coloptosis. At the twenty-four-hour period the erect position shows a marked coloptosis in which the colon and flexures appear to be within the pelvis.

Summary.—This case shows a marked gastroptosis and coloptosis.

CASE 10.—H. V. L., male, single, aged 34, has had attacks for sixteen years. Roentgenoscopy with the patient in the prone position reveals the stomach situated high, horizontal and negative in outline and size; in the erect position, a negative stomach is revealed only relatively lower than in the prone position. At the six-hour period roentgenoscopy reveals

no gastric retention in the prone position. At the twenty-four-hour period the colon is in normal position and the flexures well fixed. There is a large cecum, a narrowing of the ascending colon and a dilatation of the colon at the hepatic flexure. Roentgenoscopy in the erect position at the twenty-four-hour interval shows that the position of the colon is well maintained.

Summary.—This case shows a large cecum, a dilatation at the hepatic flexure and a narrowing of nearly the entire length of the ascending colon, which has every appearance of adhesion (Fig. 15).

From the foregoing study it is obvious that some form of abnormal position of the various parts of the gastro-intestinal tract is present in every case examined.

We are not in a position to explain the genesis of these defects, nor do we believe that the various theories advanced for their interpretation in the general field, exclusive of their presence in nervous subjects, are convincing, although those advanced by Hertz and Lane appear to be most plausible. We are certain, however, that it is the part of good internal medicine to reckon with the facts shown both in diagnosis and therapy.

In the several months' treatment subsequent to these roentgenoscopies, an intensive and more direct application of hygienic measures of massage and exercise therapy and other simple plans of treatment has been inaugurated to fit the special defect of each case, and marked physical and neurologic improvements have taken place not noted in a previous period without such therapy. To many internists and surgeons it may seem altogether unreasonable for us to expect that even an approximately normal digestion should obtain in such a case as that of Mrs. C. J., in whom the hepatic flexure is so greatly ptosed. Before our special treatment was undertaken in this case, however, natural movements of the bowels occurred but once a week, whereas now, after about three months' treatment, normal movements occur almost daily. After all, the functional test of digestive efficiency is the final proof. In the course of a year we hope to furnish Roentgen-ray controls, so that we may note whether or not the actual positions of the viscera have changed corresponding to the improved functioning already noted.

Our final conclusion is that Roentgen analysis of the defective digestive of epileptics is of both diagnostic and therapeutic value, and is an excellent supplement to the chemical and bacteriologic tests already in use, which form such a prominent part in any comprehensive hygienic plan of treatment in a stubborn nervous disorder of this kind.

84 East Fifty-Sixth Street—163 East Sixty-First Street.

Street Accidents in 1913.—The report of the National Highways Protective Association shows that during the month of December 25 persons were killed by automobiles in New York City. Of these 12 were children under 16 years of age. This makes a total of 302 killed by automobiles in this city in 1913, of which 149 were children. The number killed in 1912 was 221, of whom 103 were children. Six persons were killed last month by trolleys, against 13 for December, 1912, making a total of such accidents for the year of 106 as against 134 for 1912. In the state, outside the city, 9 persons were killed by automobiles during the month of December, 1913, as compared with 13 for 1912. This makes a total of 150 deaths by automobiles in the state, 79 by trolley and 32 by wagons, as compared with 127 by automobiles, 79 by trolleys and 28 by wagons for 1912. The National Highways Protective Association announces that it has started a campaign for the continuous enforcement, in a reasonable way, of the traffic ordinances.

POSSIBILITIES IN THE ROUTINE PRACTICE OF A SMALL HOSPITAL *

HERBERT C. COLE, M.D.
BOGALUSA, LA.

A small hospital, isolated by hundreds of miles from the great centers, will lend itself to modern, up-to-date routine practice, under properly applied technic and rigid discipline, if there is the ambition and the administrative faculty in control of the institution's activities. There need not be vast expenditure or elaborate equipment.

For many years the great manufacturing interests of our country have been perplexed in their efforts to operate profitably and at the same time conserve the combined interest of their stockholders and employees. During that time manufacturing enterprises throughout the country have destroyed thousands of human lives by not supplying adequate medical and surgical attention to their men. Formerly the sick and maimed were replaced with new human material while the disabled were turned loose, to be cared for by the state in which they lived, or migrated. As a result of these

Fig. 1.—Front view of hospital.

practices many thousands of useful persons have been incapacitated, a spirit of resentment for corporation employment has been engendered, dissatisfaction leading to dissension, strife and bloodshed has developed, and the progress of our natural resources dampened.

Emanating from the ever-dominant principle of greatest utility to be derived from conservation of energy and material and the preservation of health and happiness, the great business interests operating through the Great Southern Lumber Company and the New Orleans Great Northern Railroad, two allied corporations operating in Louisiana, considered in their plans for economy the value of human life. From investigations into this item of their operating economy, and in justice to humanity, plans were evolved by which there could be furnished by mutual cooperation and without great expense or inconvenience, adequate medical and surgical protection to their employees.

For business enterprises of this kind to prosper it is essential that every economic problem be solved. It is obviously necessary for the health of the community

* Read in the Section on Hospitals of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

to be preserved; it is imperative that epidemic outbreaks be quelled and the general health of the community kept at its highest standard. Without adequate facilities and competent services this is impossible. Appreciating these facts, the companies of which I speak, although isolated by hundreds of miles from the great centers, and in the midst of what was but a few years ago a vast pine forest, have erected a thoroughly modern hospital, equipped with every convenience and the equal of the better class of institutions of its kind in the cities. Under properly applied technic and rigid discipline, this hospital has loaned itself to an up-to-date routine practice such as you rarely see outside the great centers. As evidenced by the cost of construction and maintenance, there need not be vast expenditure or elaborate equipment. Constructed at an expense of $41,000, including equipment, and maintained at an annual expense of $30,000, including physicians', superintendent's and nurses' salaries, this institution furnishes protection for two allied corporations representing investments of over nineteen million dollars and numbering from eight to nine thousand employees. Isolated as it is by the geographical location of the natural resources which these corporations are developing, and in the midst of which the plant is established, it becomes necessary that adequate and efficient medical services be supplied.

While it is true that among some members of the medical profession there prevails a spirit against corporation employment of physicians, arguments to that effect having been advanced, yet I dare say that in the vast majority of such instances the argument was submitted without due appreciation of conditions as they are. It is a veritable fact that those who follow corporation employment, allowing for exceptions only in the case of officials and clerical employees, with a small percentage of the better class of laborer, are either financially unable to supply themselves with adequate medical and surgical protection, or do not pay for these without compulsion. Thus it is that in order for the health of such a community as this to be conserved and proper care taken of the sick and injured, it is absolutely necessary that something of a cooperative system be followed. Appreciating these facts, the great interests of which I speak evolved the following plan:

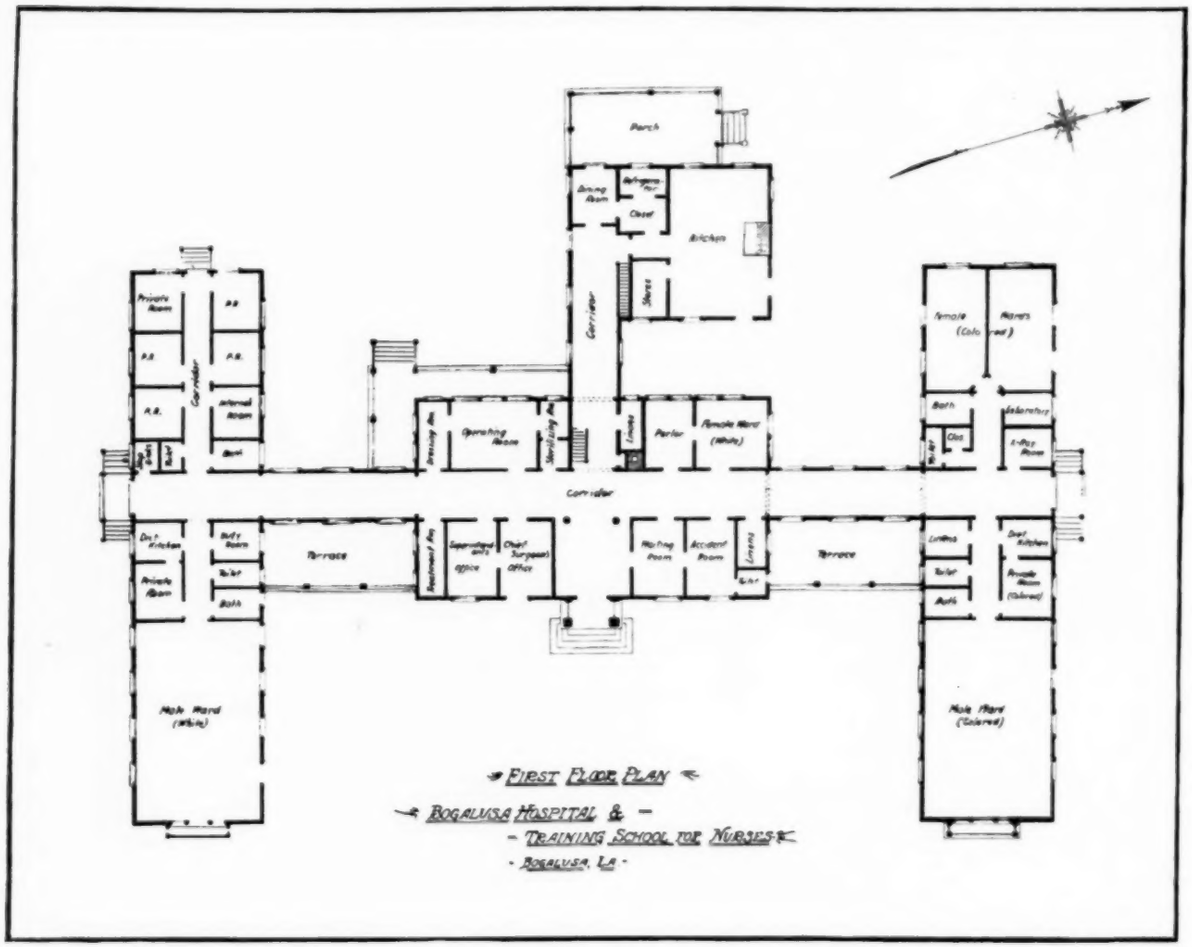


Fig. 2.—First floor plan.

PLAN OF A HOSPITAL FOR FIFTY PATIENTS

A hospital designed to accommodate fifty patients was constructed according to the following scheme: A main building of two stories with two wings intersected by ells, the latter having one story each, and a third wing of one story extending backward from the main building. All sections are connected by means of hallways meeting at the main entrance, and all is under the same

roof. In the main building, first floor, provision is made for white and colored people, separate waiting rooms, each opening into a large room arranged to meet the double requirements of clinic and consultation-room. Aside from this, we have rooms for the chief surgeon's private office, the superintendent's private office, and a treatment-room utilized also for operating-room. A main operating-room connects with a sterilizing-room, preparatory-room and instrument-room. In addition, this section also supplies space occupied by nurses' parlor and lecture-room, and a ward with three beds for white females. Each wing of the hospital leads from the main building and is occupied by a large hallway communicating with sun galleries on both sides. At the end each wing is crossed by the ells, which are occupied by hallways communicating on one end with a large ward of fifteen beds for white males, seven private rooms for white patients and accessory rooms utilized separately for record-room, diet-kitchen, bath-room, laboratories and house physician's room, with accessory bath and water-closet. The other end is divided into three wards, two for colored females, accommodating ten patients, and one large ward accommodating fifteen colored male patients, record-room, diet-kitchen, water-closet and bath, same as other side, but in addition one private room for colored patients requiring isolation. On this end, also, we have the Roentgen-ray and electrical department and laboratories for clinical microscopy and pathology.

Fig. 3.—White male ward.

Extending back of the main building we have space for kitchens, pantries, store-rooms and dining-room for house physician, superintendent and nurses, and one additional for the servants. This section, like those previously described, communicates with the main building by means of a large hallway.

Upstairs over the main building, is utilized for superintendent's apartments and nurses' home. Accompanying are illustrations of the hospital and a plan of its general arrangement.

SYSTEM OF MANAGEMENT

Having given you an idea of our general equipment with its convenience, let me now briefly discuss our general system of management.

Relation of Physician to Patient.—The medical staff is composed of four doctors, all trained according to present standards, who rank according to the following order: a chief surgeon, a first assistant surgeon and a house physician. The duties of each as outlined in routine practice of the institution are as follows: Regular hours of service at the hospital are observed and arrangements are such that at no time, day or night, is the hospital without a doctor. Office hours are from 8 a. m. to 8 p. m., arranged so that each doctor fills an hour in the morning and an hour during the afternoon or evening. During each doctor's office hour he is responsible for the affairs of the institution. Patients reporting for attention are taken privately into the consultation-room and given whatever medical or surgical attention is necessary. Rigid rules are followed in giving each patient a routine physical examination and prescribing for or admitting the patient according to the exigencies of the case. Patients admitted, whether medical, surgical, obstetric, or whatever the condition may be, are in the exclusive charge of the physician in attendance, and he is directly responsible to the patient, on the one hand, for prompt and efficient service, and to the hospital and indirectly to the companies on the other, for the result.

Each physician is responsible also for the entire duties incident to caring for the patient and must attend to those features of treatment which fall outside the nurses' duties. In addition to these things each physician is responsible for whatever laboratory or pathologic work may be required, such as taking and examining throat cultures, blood specimens, feces and urine analysis. By this system we eliminate the necessity for intern and clinical microscopist, thereby saving quite an item in expense.

Members of the Staff.—Just as in all systematized business concerns a chief is essential, so it is with a properly managed hospital. Our chief surgeon, though relegating to each member of the staff his duties and granting that so far as the physician and patient are concerned whatever the physician does, within reasonable limits, is supreme, still he retains the position in act and deed of supreme medical director to whom all affairs of the medical department are entrusted, and he is directly responsible to the companies for the entire affairs of the institution. We therefore have all members of the staff proceeding in pursuance of their duties unmolested, yet responsible to the chief surgeon. This enables us to conduct a rigidly disciplined staff, all working in harmony together.

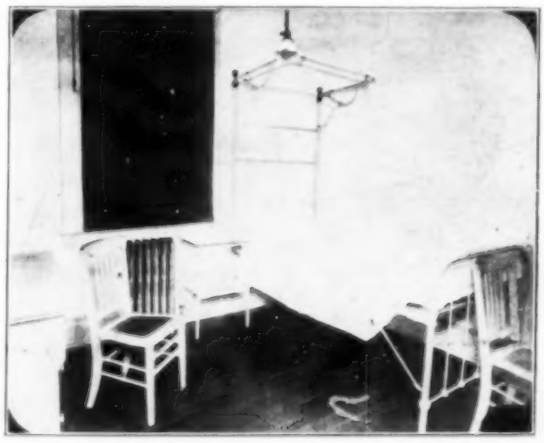


Fig. 4.—Private room.

As it is with the medical staff, so it is with the training-school for nurses. The superintendent of nurses

has surveillance over the night superior, the operating-room nurse, and all the student nurses; yet she is herself responsible to the chief surgeon. The plan followed in conducting the training-school deserves no comment other than that a scheduled course of lectures with required collateral study is submitted by the superintendent, and each member of the medical staff, together with the superintendent, lectures regularly on their respective subjects. The term of training is two years. I might further add that our training-school, in addition to offering an opportunity for ambitious girls to take up a profession, also enables us to maintain a full corps of nurses at a minimum expense. Each nurse, in addition to her training, board, lodging and laundry, receives an incidental expense allowance of six and eight dollars per month during the time of service of her junior and senior years, respectively.

Aside from the hospital proper, but under the direction of the chief surgeon, we have stationed at two separate logging camps, at distances of 12 and 25 miles, respectively, a physician whose duty it is to look after the sanitary conditions of the camps, and render medical attention to the employees, and first aid to the injured. In cases of serious accidents he is required to bring in the injured on a special train in order that the necessary attention may be promptly administered.

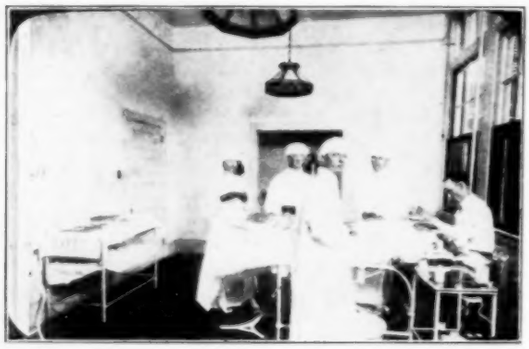


Fig. 5.—Operating room.

DETAILS OF WORK

Having given a general survey of our work, let me now go more into detail with reference to the work we are doing. Our surgical work is taken up according to the following plan: All major work of high grade is taken on Tuesdays, Thursdays and Fridays during the morning. The work is done by the operator assisted by a first and second medical assistant, and the operating-room nurse, the latter handling instruments; in addition there is an anesthetist, usually the house physician, except when he is the operator, in which case the usual second assistant gives the anesthetic. No other regular operating days are observed, all the major surgery of smaller purport and minor cases being done on any afternoon of the week, except Sundays.

We handle all the work regardless of character, except diseases of the eye requiring a specialist and part of our Roentgen-ray work. We have two visiting specialists, one on diseases of the eye, the other on roentgenology, who pay two visits to our hospital each month.

During the year 1912 there were admitted to the hospital 920 patients. Of this number 873 were discharged cured, improved or stationary, 27 were still in the hospital, and 20 died, giving a death-rate of a fraction over 2 per cent. The house visits totaled 13,255, and the office consultations and treatments were 15,138; 1,346 accident cases received attention; 284 surgical operations were performed. Of these 188 were in general surgery and 96 gynecology. Two nurses were graduated from the training-school.

The next point of interest is the hospital maintenance, the source from which comes our revenue. From the first earned wages of each employee each month a certain deduction is made for the hospital fund. For the married man, regardless of size of his family, a deduction of ninety cents is made; for each single man a deduction of seventy cents. This goes into the hospital fund from which all expenses are paid. In return for the deductions the hospital is maintained, medical and surgical services of six physicians supplied, and care given in the hospital for operation or treatment without further charges. Every feature of medical protection is at each employee's command day or night and the hospital is open at all times for any emergency that might arise.

Extra charges are made only for obstetric and venereal work, and then only a nominal fee.

During 1912 our net receipts totaled $30,501.73. Of this the following distribution was made:

Salaries	$18,894.98
Supplies	7,260.37
Other charges	4,346.38

We gained during the year $1,150.69, which, added to what we have gained so far this year, enables us, without inconvenience, to construct and allow for alterations in the main building leading to the establishment of a children's department.

Thus we see the possibilities in the routine practice of a small hospital without vast expenditure or elaborate equipment, and the vast good accruing from such a system.

BRAIN ABSCESS CAUSED BY FUSIFORM BACILLI *

GEORGE F. DICK, M.D.,
AND
LUDWIG A. EMGE
CHICAGO

A report by one of us[1] concerning a number of processes, with which fusiform bacilli were found associated, included three cases of meningitis and one cerebellar abscess. On account of the fact that these organisms were accompanied by streptococci and were, when isolated, non-pathogenic for animals, it was impossible to decide whether or not the fusiform bacilli caused the lesions or were saprophytic invaders of a process caused by the streptococci. An opportunity for additional information was afforded by the following case:

History.—A man aged 40 was admitted to the service of Dr. Dean D. Lewis at the Presbyterian Hospital suffering from severe headache on the left side associated with difficulty in speech. He had had a drainage of a temporosphenoidal abscess three months before that time, with recovery. This had been preceded by a chronic bronchitis. The second abscess was opened and a quantity of foul-smelling pus obtained from which cultures were made. The patient died about a

* From the Memorial Institute for Infectious Diseases, Chicago.
1. Dick, George F.: Fusiform Bacilli Associated with Various Pathological Processes, Jour. Infec. Dis., 1913, xii, 191.

week after the drainage of the abscess. The necropsy report was as follows:

Anatomic Diagnosis.—Cerebral abscess, chronic and subacute leptomeningitis, recent and healed operative wounds in the scalp and calvarium, petechial hemorrhages of the heart, stomach and intestine, edema and hypostasis of the lungs, cloudy swelling of the heart and liver, fibrous adhesions between the stomach and pancreas, and between appendix and peritoneum, subacute and chronic follicular enterocolitis, Meckel's diverticulum.

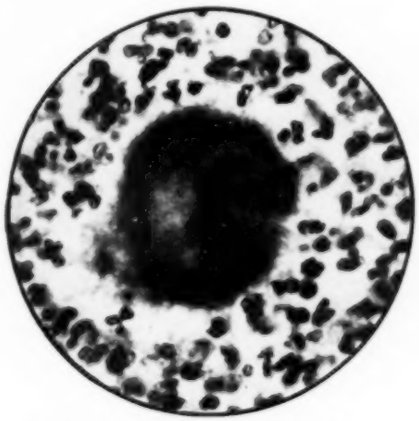


Fig. 1.—Actinomyces-like mass of fusiform bacilli in brain abscess; × 650.

Fig. 2.—Fusiform bacilli from pure culture on blood-agar; × 1,200.

At the base of the nose is a circular opening in the skull 3 cm. wide, the margins of which are smooth. The dura and pericranial tissues are adherent, and the former is markedly thickened at this point. Just above the left ear is a linear incision, coronal in direction, 7 cm. long, the lower 4 cm. of which are gaping. The wound leads into an abscess-cavity located in the left cerebral hemisphere just anterior to the fissure of Sylvius. When the brain is removed, about 125 c.c. of a foul-smelling, dirty gray pus escapes. The ears and accessory sinuses are free from purulent material.

The brain is of normal size, weighing about 1,600 gm. The left hemisphere is somewhat larger than the right one. An abscess varying in width from 0.5 to 2 cm. follows the course of the left sylvian fissure and extends into the temporal, frontal and parietal lobes of the same side. It is filled with a brownish-green mass and ends within the left occipital lobe. The left lateral ventricle is compressed and half as large as the right, which is of normal size. The lesion separates the temporal lobe almost completely from the rest of the cerebrum and breaks into the left lateral ventricle at the beginning of the occipital lobe. The tissues of the affected lobes are infiltrated with brownish and greenish patches which replace the white and gray matter to a considerable extent. The cerebellum was found to be of normal size and without gross lesions.

Examinations.—A number of pieces from the sides of the lesion, hardened in formaldehyd solution, were examined microscopically. The most marked changes are found in the middle and posterior third of the medulla and cortex of the left temporal lobe about the fissure of Sylvius. Especially conspicuous are the many large and small areas of necrosis which involve both the white and gray matter. These areas of necrosis are generally sharply demarcated and limited by a zone of fibrous connective tissue. There is also a marked accumulation of polymorphonuclear leukocytes which extends well into the gray matter, which for the greater part is broken down. Larger and smaller fields of recent hemorrhages are present throughout this region.

Between the necrotic areas as well as in the accumulation of polymorphonuclear leukocytes circular masses are seen which simulate in a measure an actinomycotic formation when observed under low magnification. They are invariably surrounded by heavy walls of small round cells and polymorphonuclear leukocytes. Under high magnification these masses are seen to consist of a great number of long slender filaments which radiate about a small ball of central members. Stained with hematoxylin and eosin, an outer small zone which takes the pink stain seems to consist of fine fibrin threads which spread between the surrounding cells. With connective-tissue and fibrin stains (Mallory-Weigert and Weigert-Mallory) it can be made out that these threads are not fibrin but the outer ends of the filamentous organisms. The organisms are Gram-negative when stained by Mallory-Wright and by Weigert's modification of Gram's stain. The groups of organisms vary in number as indicated by the size of the groups, the larger of which are found within the necrosed areas while the smaller groups are limited to the free accumulations of pus.

Anaerobic cultures made from the pus as obtained at the operation yielded a pure culture of fusiform bacilli. The organisms developed in from two to four days on the surface of ascites or blood-agar slants as small drop-like colonies which grew to be about a millimeter in diameter raised well above the surface of the medium. The growth in the water of condensation formed rather discrete colonies in the fluid.

Fig. 3.—Fusiform bacilli from pure culture on blood-agar; × 1,200.

Fig. 4.—Fusiform bacilli from pure culture on blood-agar; × 1,200.

In ascites-agar stabs there was no outgrowth into the surrounding medium. The organism did not grow on ordinary mediums without serum or blood. The organisms were Gram-negative, at times distinctly fusiform and rather short, with vacuoles and granules; at times large filaments were formed.

A pure culture from one of the original colonies on blood-agar was injected into the brain of a rabbit. In about twelve hours the animal developed chronic convulsions and died in about thirty-six hours with paralysis of all four extremities.

The meningeal fluid was found at necropsy to be rich in polymorphonuclear leukocytes, and fusiform bacilli were found in smears and cultures from the fluid. The lateral ventricles were filled with thin pus from which the organisms were also recovered in pure culture. A slant of this culture was injected into the brain of a second rabbit, and this animal died in much the same way as the first. In this animal a small abscess was found just outside of the right lateral ventricle, with necrosis of the surrounding tissue. The tissue was examined for actinomyces-like bodies similar to these described in the necropsy, but none were found. Two rabbits injected intrameningeally died in about thirty-six hours in convulsions. In these rabbits there was very little exudate on the meninges, but only a diffuse hyperemia. At this point a contamination of the strain which was being passed through rabbits occurred, and experiments were resorted to with subcultures from the original growth, which had been over a month. Injection of a culture of these organisms into the meninges was without result. Later it was found that intrameningeal injections of the growth from a dozen slants were apparently harmless for rabbits. One animal received three injections of large quantities of the organisms with no harmful results. The cultures had lost their pathogenicity. It is not improbable that the readiness with which pathogenicity is lost in these organisms explains the negative results of attempts to produce lesions in animals, as the isolation in pus culture of fusiform bacilli is often time-consuming.

The finding of the actinomyces-like bodies in an abscess from which pure cultures of fusiform bacilli were obtained has direct bearing on the identity of the so-called ray fungi commonly found in tonsils. These bodies have been commonly mistaken for actinomycelial granules. Davis[2] believes these granules to be composed of streptococci, spirilla and organisms of the fusiform group.

The filaments composing the bodies found in the brain in this case resemble closely the organisms cultivated from the pus containing them.

HEREDITY IN BONE LESIONS

WITH THE REPORT OF AN UNUSUAL FAMILY HISTORY *

JOSEPH RANSOHOFF, M.D., F.R.C.S. (ENG.)
CINCINNATI

Because it has been my unusual privilege to come into personal contact with morbid heredity through three generations of one family, I take the opportunity of presenting, in brief, the histories of four patients of three separate generations.

CASE 1.—Mrs. M. X., aged 68, was born in England, there was no obtainable history of hereditary disease. Her husband who was short of stature, had no hereditary pathologic history. He died of senility at 79. One brother died of acute nephritis at 47, and one sister of diabetes at the age of 70. The patient had been well until four or five months before she came under my observation, in July of 1891. During these months she suffered severely from pains in the lower third of the thigh. They were supposed to be rheumatic. In attempting one morning to get out of bed she sustained a spontaneous fracture. At the site of this a tumor rapidly formed, for which an amputation was made. The patient died Sept. 18, 1891, of pulmonary metastasis.

The specimen showed a mixed sarcoma of the femur with spontaneous fracture. This was before the days of roentgenography. Fortunately the specimen was preserved, and has been roentgenographed (as shown in the accompanying illustration). The disease was limited to about 3 inches of the lower third of the femur and stopped short of the condyles. The compact tissue and the medulla for 2 inches above the main tumor mass show alternating areas of bone rarefaction and hyperplasia. On the surface the growth has completely surrounded the femoral shaft in the form of a ring 2 inches wide encircling the line of fracture. With the invasion of the soft parts the myeloma evidently assumed the malignancy of the sarcoma group in general.

Mrs. X. had two daughters and two sons. One of the daughters has remained single and well, except for a cystic disease of the breast. The second daughter is married and has three children, all of them well. The two sons are Patients 2 and 3.

CASE 2.—S. X., aged 48, younger son of Patient 1, in 1890 contracted syphilis which was apparently cured by the treatment then in vogue. In January, 1899, he first complained of pains in the right hip and became lame. Being told that the condition was probably luetic, he submitted to a long course of treatment at Hot Springs, without effect. Trips to various health resorts failed to bring relief. When I first saw the patient he presented the following condition: In face and stature, he resembled his mother. The right thigh is in moderate abduction and slightly flexed. Between the trochanter and the iliac crest is seen a distinct fulness which extends forward to the anterior surface of the thigh. The mass was evidently deep-seated in its origin. A roentgenogram, which unfortunately has been lost, showed an osteosarcoma of the femoral neck which had invaded the trochanter, completely destroying it. Although an exarticulation at the hip was advised, it was not urged. The tumor grew very rapidly, invaded the skin, and death from recurrent hemorrhages ensued in March of 1900, fourteen months after the onset of symptoms.

Mixed central sarcoma of femur with spontaneous fracture. Roentgenogram taken from specimen twenty-two years after amputation.

A necropsy was not permitted, nor could a part of the tumor be obtained. Although this case was probably from the beginning, on account of its malignancy, a sarcoma of periosteal origin, the possibility of its having been primarily a myeloma cannot be definitely excluded.

CASE 3.—J. X., older son of Patient 1, showed more than ordinary family resemblance to his mother and brother. There is no history of syphilis. Patient was in excellent health until he had passed his fiftieth year. He then developed a typical osteitis deformans, beginning with the bowing of both tibiae.

2. Davis: Personal communication.

* Read before the Southern Surgical Association, Dec. 17, 1913.

The femurs followed next, and then the necks of both femurs. In the course of three or four years the spine became progressively involved so that in walking the upper part of the trunk was almost parallel with the floor. Locomotion became exceedingly difficult and was made possible only by the use of two heavy canes. The case was one of osteitis deformans and ended fatally at 64. The immediate cause of death was nephritis.

CASE 4.—F. X., born in 1888, daughter of Patient 3, came under my observation when she was a year old. The patient who is now living and 25 years old, resembles the mother very closely in stature, color and facial characteristics. She has one younger brother and one sister. Both resemble the father. They seem normal in every way.

When the patient was 6 months old it was found that she could bear no weight on the left foot. An examination revealed a break in the lower end of the tibia and a slight shortening of the leg and foot. There was no other deformity. There had been no history of an injury. The manipulations were not in the least painful. All efforts to obtain union in the fracture by the ordinary means failed, and the limb could not be made to bear weight. When the child was 4 years old the affected leg was 2 inches short. The foot was shorter than its fellow and poor in its circulation. An operation was now performed with a view in some manner of bringing the fragments into contact. The exploration revealed an intact fibula. The upper fragment of the tibia was bulbous and eburnated. The lower fragment was triangular, very atrophic and terminated above in an almost dagger-like point. At the operation the upper fragments were vivified and the lower firmly fixed in the medulla. This of course, was before the technic of bone-grafting was far developed. The result was unsatisfactory. The roentgenogram taken when the patient was 11 years old showed that the operation had not improved the condition. It was much as it had been before the operation.

Prostheses of various kinds had to be restorted to. Without them, locomotion was impossible. The roentgenogram taken two years later showed that the fibula had also broken. The leg was a little over 3 inches shorter than the other. Trophic changes in the foot, such as painful though superficial ulcerations, made life so intolerable that when the patient was in her sixteenth year an amputation was made below the knee as a matter of election.

The pathologic nature of this case is a puzzle difficult to solve. Was it an unrecognized case of intra-uterine or intrapartum fracture? Was it a fracture at all, or was it from the beginning an imperfect osteogenesis? I am inclined to believe that it was the latter, in view of the family tendency to bone lesions, and because the ordinary concomitance of intra-uterine fracture, such as bowing of the tibia, the amniotic scar over the fracture and other deformities of the leg and foot were absent. Furthermore, the theory of imperfect bone genesis fits in with the remarkable tendency to bone lesions in the family.

In 20 per cent. of the cases of osteitis deformans a hereditary tendency has been found to exist. In many of them, death results from sarcoma developing in previously affected bones. Indeed, Paget's first patient died of sarcoma of the ulna. There are ranking pathologists to-day who believe that the medullary bone sarcoma is not a sarcoma at all, but only a variant of the fibrous osteitis, which so often ends in bone deformity.

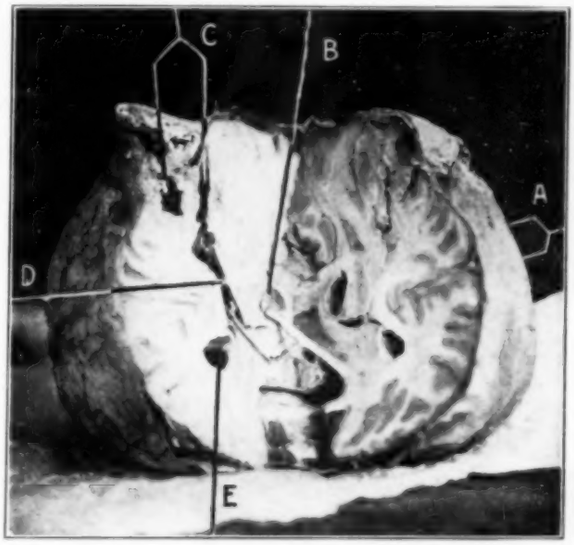
Therefore, in three of my cases the similarity, if not identity of the bone lesions, must be conceded. In the fourth and last case the morphologic kinship, though undoubted, is not so clear.

I am safe in saying that in all these cases bone tissue was by heredity a *locus minoris resistentiae*, a phrase little used during the last decades, in which the bacteriologists pushed aside our theories of the causes of disease. But for many things we are forced to fall back on heredity. The *locus minoris* of our fathers is still the weak spot, only the modern experimental biologist calls it the "recessive." The future alone can tell how far-reaching was the study of that humble Augustinian friar who, in the little walled garden of his cloister at Brunn, looked on the humble garden pea with a higher thought than that if there were enough of them, they made a good meal on Friday.

A CASE OF BRAIN ABSCESS

CECIL E. REYNOLDS, M.R.C.S., L.R.C.P. (LONDON); D.P.H. (CAMBRIDGE); LOS ANGELES

Patient.—F. D. T., a publisher, arrived in Los Angeles June 10, 1913. He was ill during the night of June 9, with some headache and nausea, but as for years past he had been subject to attacks of "nervous prostration" which were accompanied by headache and vomiting, he did not regard the attack as particularly serious. June 10, during a business interview, he could not express himself as lucidly as was necessary; in consequence he became excited and was removed to his hotel, where I saw him about 4 p. m.



Coronal section of brain 1 inch behind the midpoint; *a*, anterior portion of brain; *b*, metastatic abscess in left thalamus; *c*, primary abscesses; *d*, velum separating left ventricle from abscess; *e*, right lateral ventricle.

I found a healthy, intelligent-looking man, aged 46, of spare build and showing no signs of alcoholism or other degenerative stigmata. He was sitting up in bed, vomiting a watery bile at intervals; he complained of some generalized headache and an inability to find the right word. He had often had these attacks, but never such marked amnesia. He had recently been under great worry and mental strain. He had taken no alcohol and had never had syphilis.

Examination.—Heart and lungs normal, tongue heavily coated and bowels constipated. Temperature 99 F., pulse 85. Cranial nerves normal; no ptosis, strabismus or nystagmus. Power and sensation equal and unaltered; no ataxy. Romberg sign absent. Superficial reflexes equal and normal; deep reflexes equal and moderately exaggerated. Optic disks normal; no contraction of the fields of vision. Patient could read fairly well, though with some hesitancy; when writing to dictation it was well executed, but he was easily fatigued. No disease of scalp, ears or nose. In conversation he showed marked forgetfulness of names.

Course of Disease.—I was inclined to regard the case as one of neurasthenia, exacerbated by auto-intoxication, and prescribed calomel in repeated doses during the day and salts in the morning. The next day the vomiting had ceased and the headache was better, but the speech was worse; the patient was subject to attacks of mental excitement. I advised his removal to hospital. He got up and dressed but I noticed that, although he put his tie-pin in straight, he was quite unable, after several minutes of effort, to adjust the fastener to its point. Romberg's sign was still absent. As he walked to the elevator money fell from his pocket but its loss was unnoticed. He chatted merrily on the way and walked up the hospital steps without effort. Vomiting was absent all that day and headache was slight. Temperature on admission, 97.6; pulse 70; calomel continued, ⅙ grain every two hours.

June 12: Patient had severe headache and sleeplessness during the night, but at 7 a. m. seemed much improved, spoke much more distinctly and grasped ideas better. Temperature 99, pulse 50, respirations 18.

This day a barely detectable weakness of the right arm and a trifling exaggeration of the tendon-jerks and epigastric reflex on the right side was present. The right plantar reflex was still flexor, but the great toe did not go down so briskly or so far as did the great toe on the left side; the second and third toes on the right side went up, but all the left toes went down. The face, upper and lower, moved equally to voluntary and emotional effort. In the absence of any apparent cause for cerebral abscess and the freedom from vomiting, from optic neuritis and from abducent weakness I regarded the case at this time as one of cerebral thrombosis. The presence of gastritis was sufficient to account for the low fever.

June 12: Potassium iodid administration begun and ice-cap applied. Patient complained of some sore throat.

June 13 to June 16: Little change. More or less headache with remissions present. Temperature range, from 98.6 morning, to 99.6 evening. Pulse, 54 to 84, with average of 60. Aphasia decidedly more marked.

June 16, morning: The patient looks and feels better. Right arm is used freely, but when at rest the hand is held in the classic hemiplegic position.

June 17: Marked hebetude. Pain localized on left side of head. Examination of the optic disks at my request by Dr. Frank Miller confirmed a beginning neuritis at the nasal side of each disk.

Operation.—June 17, I turned down an osteoplastic flap, the center of which corresponded to the angular gyrus. The dura bulged slightly and did not pulsate, the cortex was darker than normal and the vessels swollen. A trocar was inserted with a negative result. Exploration deep toward the lenticular nucleus with the little finger disclosed a cavity about the size of a small walnut, which was filled with thick ill-smelling pus. After this was evacuated, another smaller cavity was opened up as the drainage-tube was inserted. The tube was left *in situ* and brought through the center of the osteoplastic flap.

Postoperative History.—June 18, there was pronounced right hemiplegia, the face being only slightly affected.

June 20, the paralysis began to improve, as well as the mental condition and speech, but the drainage was slight from the first.

From June 22 the patient became more comatose and more toxic. June 24, I removed the bone flap and explored the abscess cavities, which were in a satisfactory condition and the meninges were well shut off. On the thirteenth day following the operation, however, the patient gradually sank and died.

Post-Mortem Findings: No meningitis existed beyond the field of operation. There were two abscess cavities side by side in the white matter of the angular and intraparietal lobes, each rather larger than half a walnut. The anterior one led by a narrow channel to a recent abscess the size of a hazelnut in the left optic thalamus. The other abscess cavity was separated from the left lateral ventricle by a narrow velum only. The abscess in the optic thalamus presumably caused death. No sign of ear or nose disease was present. The organisms in the pus were declared by Dr. C. W. Bonynge of Los Angeles to be Pfeiffer's bacillus of influenza and *Staphylococcus aureus.*

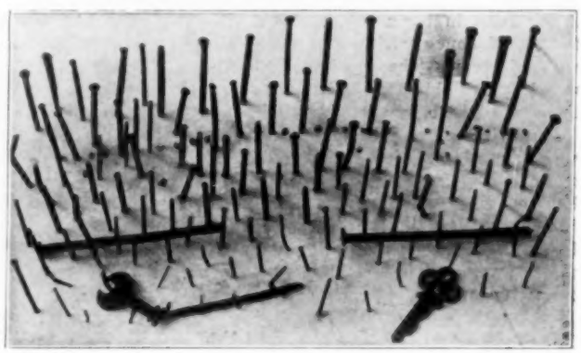
This case to my mind indicates the importance of early exploratory operation in doubtful cases of intracranial disease. I should not have waited for indications of optic neuritis and, although the diagnosis of thrombosis with cerebral softening was justifiable in the absence of any probable cause of abscess, nevertheless a well-executed decompression and inspection of the area indicated by the focal signs can do no great harm in thrombosis, and if in this case it had been performed June 11, instead of June 17, the ultimate result would, I think, have been different.

A similar case is reported by Dr. J. Henderson.[1] The abscess in this case was in exactly the same situation and on the left side but it burst into the ventricle. Dr. Henderson in his report says in conclusion that in such cases with no evidence of the origin of the infection a diagnosis of abscess must always be uncertain.

A CASE OF HARDWARE SWALLOWING

W. O. WILDER, M.D., PITTSFIELD, MASS.

History.—L. P., aged 41, a carpenter since 16, admitted to the House of Mercy Hospital, Oct. 24, 1912, juggled coins in his mouth and throat, when a youth, for the amusement of his friends. In 1908 he began to swallow nails for money, and later indulged in a diet of knives, cigars, etc., which he would vomit up sometimes and at other times pass by bowel. He said that he was accustomed to swallow 4 feet of 1-inch dog-chain, and women's neck-chains of similar length. These were usually redrawn from the stomach. For the past four or five years the patient has suffered with sharp pains in the abdomen, which were partially relieved by partaking of food. The pains recently had become extremely acute and constant, being localized in the left upper quadrant of the abdomen, and made more severe by any movement of the body.



Foreign bodies removed from the stomach.

Examination.—The bowels were regular and the stools contained no blood. The patient was very much emaciated. The lungs and heart were negative, the abdomen flat and rigid. Pressure demonstrated no tumor but did elicit an extremely tender area in the left upper quadrant. Roentgenoscopy revealed a definite irregular-shaped shadow in the left upper quadrant of the abdomen.

Operation.—An incision was made in the left rectus above the umbilicus. An adhesion of stomach to the abdominal wall was freed and a small perforation of stomach was found through which protruded the point of a nail. After the field of operation had been thoroughly walled off with gauze, the perforation was so enlarged as to admit the hand, and two keys, two twelvepenny nails and 130 other nails and pieces

1. Henderson, John: A Case of "Idiopathic" Cerebral Abscess, Lancet, London, May 31, 1913, p. 1525.

of wire were removed. These foreign bodies lay in a pouch-shaped distention of the cardiac end of the stomach and weighed ¾ of a pound in bulk.

Recovery was uneventful.

A TRANSVERSE INCISION FOR OPERATION ON THE SCROTUM

GEORGE MORRIS DORRANCE, M.D., PHILADELPHIA
Surgeon to St. Agnes' Hospital

In operations on the scrotum, the longitudinal incision is the one described in all the text-books which I have consulted. On examination of the lower half of the scrotum, it will be found that the superficial vessels and nerves run almost transversely. If the incision is placed transversely between the vessels which can easily be seen, injury to many of these structures will be avoided and the incision will be in the line of the folds of the skin. This is well shown in the accompanying illustration. The edges of the incision will approximate themselves and the sutures will make a good even wound. After the removal of the drain, if drainage is required, the edges will fall together. If it is desired to shorten the scrotum, a second transverse incision with excision of the intervening skin and fascia will give the desired results. This method has the advantage of shortening the cremasteric muscle in its entire width, a result not obtained by suturing the longitudinal incision transversely. The longitudinal incision does not produce a neat wound. The dotted line indicates the line of incision.

Transverse incision (indicated by the dotted line) between superficial vessels of scrotum.

2025 Walnut Street.

A Case of Right Inguinal Hernia of Ovary and Tube.—L. P., student, aged 12, was brought to the office in October, 1913, by her parents because of a right inguinal hernia. Her parents could not remember when the trouble was first noticed, but said that other physicians had told them that the child was ruptured and prescribed a truss which she had worn for some years. Except for the inconvenience of wearing the truss, the hernia troubled her very little. At this time there was nothing in the inguinal canal and the hernia had always been easily reduced. On December 15 I was called to the house to see the patient. Two days before, while not wearing her truss, she coughed and a swelling appeared in the right inguinal region, which she was unable to reduce. On examination a small, oval, tender mass the size of an almond was found in the right inguinal canal. This could be moved a certain distance up and down the canal but could not be replaced in the abdominal cavity. A probable diagnosis of hernia of the ovary was made and the child sent to the hospital. At the operation the sac was found to contain the right ovary and tube but no bowel or omentum. The ovary and tube were replaced in the abdominal cavity and the wound closed in layers in the usual way. The subsequent history is of no interest.—ALBERT S. BABB, M.D., Greenville, Mich.

A CONGENITAL MALFORMATION OF THE NECK

CHARLES A. PARKER, M.D., CHICAGO

In May, 1912, the patient, A. F., a girl aged about 11, came to the service of Drs. Blanchard and Parker at the Home for Destitute Crippled Children, for the correction of a peculiar deformity involving principally the skin on both sides of the neck. The deformity is well illustrated in Figure 1, and consisted of two symmetrical wing-like folds of skin extending from either mastoid region to the top of the shoulder. These wings had always existed to some extent and changed very little in appearance with muscular contraction. They interfered somewhat with the movements of the head, but it was more on account of the deformity that their removal was sought. The redundant fold of skin was removed by an incision extending from the mastoid to the outer end of the clavicle on either side of the fold leaving an elliptical wound which, when closed, made a more nearly normal-appearing neck (Fig. 2). On account of troublesome anesthesia the two folds were removed at separate operations. The portion removed, besides the skin, contained fibrous tissue in which were included some muscle fibers. No microscopic examination was made. The position of the fold, just behind the ear, was too far forward for the trapezius, and the bottom was too far out on the shoulder for the sternomastoid.

The case is unique as far as our knowledge and experience go and we can offer no plausible explanation of its development. The family history, however, suggests a very definite factor in its origin. The father has locomotor ataxia, an older sister has a congenital dislocation of the hip and five children died during infancy, one being still-born.

Fig. 1.—Congenital malformation of the neck.

Fig. 2.—Patient in Figure 1 after operation.

The accompanying illustrations show the facial characteristics of this child. Later she developed a dislocation of the patella, resembling the congenital type, which was cured by operation.

7 West Madison Street.

Morbidity Statistics in the United States.—We must not let ourselves be blinded by statistics, for the statistics of disease in the United States are notoriously unreliable. For certain sections no attempt whatever is made to collect them. * * * Until severe penalties are inflicted for failure to report cases of infectious diseases, until failure to do so results in the cancellation of the license to practice medicine, there will be no really reliable statistics. And this will only be brought about when the state health services throughout the land furnish a permanent career for life instead of being, as they are but too often at present, a side-line of politics—medical or otherwise. And these services should furnish a career like the federal civil service, to sanitary engineers and chemists as well as to physicians. The people must learn that their health is too valuable to entrust to temporary health officers or to physicians who devote to the discharge of their duties as health officers only such irregular moments as can be spared from private practice.—Carl L. Alsberg, *Am. Jour. Pub. Health.*

New Instruments and Suggestions

THE MOUTH-DRIP: A METHOD OF ADMINISTERING FLUID TO INFANTS IN GASTRO-ENTERITIS (ALIMENTARY INTOXICATION)

ALFRED F. HESS, M.D., NEW YORK

In the acute gastro-intestinal disturbances of infants, an excessive loss of fluid constitutes one of the greatest dangers to which the infants are subjected. Metabolism studies have shown this, and it is evident to even the casual observer. The dry skin, the parched mouth, the sunken eyes, the depressed fontanel, are striking evidences of a marked depletion of the body fluids. This condition is seen in its greatest intensity when the watery stools are marked and frequent and vomiting is repeated; but it is encountered also in those cases which are mainly toxic in character and which preeminently deserve Finkelstein's appellation of alimentary intoxication. In such cases there may be little or no vomiting, the diarrhea may have almost ceased, and yet the extreme prostration, the apathy or semistupor afford unmistakable evidence that the situation is critical. At this time, we know, food must be at first entirely withheld, and then given only in minimal amounts. If it is given even in moderate amount and in correct formula it acts as a food-poison, increasing the stupor and leading rapidly to death. At this period of the disease the most essential therapeutic measure is to supply the infant, in one way or another, with a large amount of fluid. Almost all textbooks emphasize this point; urging that under such conditions small quantities of water be given frequently. This can be accomplished in various ways. The fluid may be proffered every fifteen minutes or half-hour by mouth, it may be introduced by means of hypodermoclysis, or, finally, it may be instilled into the rectum.

Mouth-drip. Infant sucking on nipple. The glass dropper and regulating stop-cock may be seen just above upper rail of bed. Care should be taken that the tube does not drag, and, by its own weight, tend to be pulled away from the mouth of the infant. In order to avoid this, it can be suspended vertically (as shown in the illustration) or, still better, it can be so arranged that the part near the nipple rests horizontally on the bed. To obviate, furthermore, a tendency of the nipple to be pulled away, it will be noticed that the comparatively heavy glass dropper is placed at a considerable distance from the nipple. Another detail, perhaps worthy of mention, is that before the drip is started the fluid is allowed to fill the entire tube; after it is filled, the regulating pinch-cock is applied so that the fluid falls drop by drop.

In the course of the past year I have made use of an expedient which seems to me serviceable in this connection, and therefore of sufficient importance to bring to the attention of those who have to treat this type of disease. In brief, it consists of applying what is popularly known as the Murphy drip-method (by means of which water is given drop by drop by rectum) to the giving of water by mouth—or, in other words, a "mouth-drip." This method has the advantage that fluid entering the upper intestinal tract is absorbed more completely than that which is given subcutaneously or by rectum. Furthermore, in acute enteritis the irritability of the bowel is so marked that the rubber nozzle is not well retained and, indeed, intensifies the diarrhea.

The apparatus (as shown in the accompanying illustration) is the same as the rectal drip except that, instead of a hard rubber nozzle, an ordinary rubber nipple is attached to the end of the tubing by means of a glass connecting-piece. The baby is encouraged to suck on this nipple for the greater part of the day and in this way obtains a large amount of water, hypotonic salt solution, Ringer's solution or other fluid.[1] I have had the drip so regulated by means of a pinch-cock that from about 25 to 30 drops per minute fall from the glass-dropper into the tube. In every case of enteritis in the hospital an apparatus of this kind has been suspended next to the bed. By this means these infants have received about a quart of water in the course of the twenty-four hours, the amount of fluid naturally depending on their thirst and on the degree of the poisoning. Often in the early stages, when the tongue is dry and parched, they will suck almost continuously on the nipple and cry when it is removed, whereas later, when entering on convalescence, they will no longer take to it so greedily. The nipple at times falls from the mouth, the infant releasing its hold. In order that the bed-covering shall not be made wet in this way a little saucer or plate is placed next to the baby's head. The nurse, therefore, has to replace the nipple from time to time. This does not entail near the amount of labor or individual attention which would be required were the infant to receive the same amount of fluid by bottle or spoon in the course of twenty-four hours. To accomplish this end, the nurse would have to offer the water or other fluid many times in the course of an hour. In my experience, this is practically impossible in an infants' ward. If there is one nurse to one or two babies, she can devote her attention to supplying the infants with sufficient fluid; but in the ordinary infants' wards, so many other duties fall on the nurses that the infants, unable as they are to give utterance to their wants, lie often for hours in urgent need of fluid. It must, I think, be a common experience that when a spoonful of water is offered to an infant suffering from alimentary intoxication, it is gulped down greedily by the thirsty baby as if it had not received any water for hours. So great is the absorptive power of the mucous membranes in these cases that the tongue becomes parched in a very few minutes after water has been administered.

It may be urged that by keeping a nipple in the baby's mouth we are encouraging the formation of a bad habit. This criticism, however, can hardly be entertained in a consideration of the treatment of a disease involving a mortality so high as that of gastro-enteritis of infants. In the light of recent studies in metabolism, demonstrating the marked difference between the expenditure of energy in infants that are quiet and in those that are restless, it is, indeed, questionable whether this procedure does not possess additional advantages through its quieting effect and through the conservation of calories which it in this way accomplishes.

This "mouth-drip" is brought forward not with the idea of presenting a novel device, but merely as a simple method of facilitating the introduction of large quantities of fluid, more especially in alimentary intoxication, but also in other toxic conditions of infants and in pyelitis, in which large quantities of fluids are indicated. It is particularly applicable to the hospital ward, where the infants cannot have the individual attention of a nurse.

16 West Eighty-Sixth Street.

A SIMPLE CYSTOSCOPE HOLDER

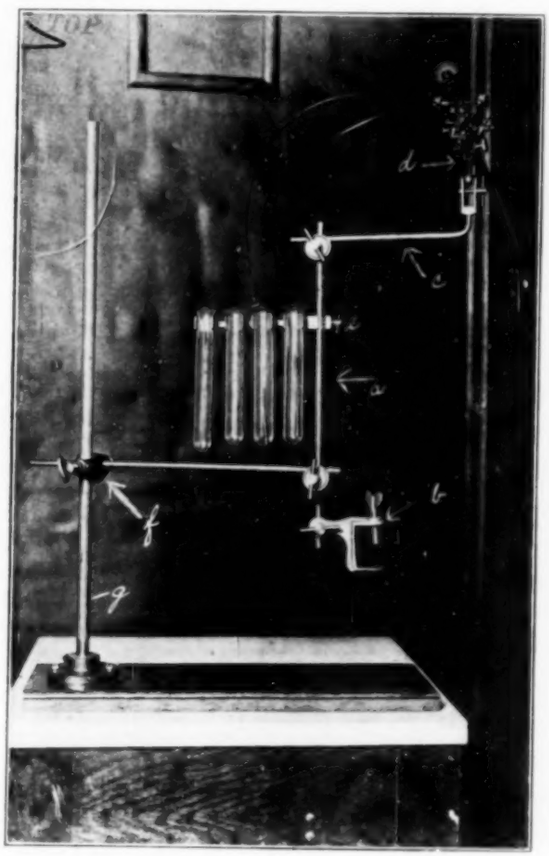
LOUIS FRIEDMAN, M.D., NEW YORK

Cystoscope holders are made either in the form of a floor-stand or to be attached to the examining-table. They are usually either too heavy or too bulky for supporting a light instrument like a cystoscope, while some are complicated and clumsy.

1. The addition of a small amount of saccharin to the water frequently results in the babies' taking still larger quantities.

I have constructed a holder which is easy to manage, simple in construction, light and strong and will hold any kind and size of cystoscope in any position desired. It is attached to the table or to the leg-holder rod. During cystoscopy it can be swung out of the way when not wanted and is not in the way when in use because of its small size and compactness. It holds the cystoscope in a steady position while urine is being collected from either kidney; it is very useful when one has to work without assistance and particularly convenient and practical for demonstration purposes as the cystoscope stays exactly where placed, so that the field in the bladder under observation can be studied at leisure.

The perpendicular bar (*a*) is 12 inches long, held by the clamp (*b*) which is attached to the side of the table. The horizontal bar (*c*) is 8 inches long, can be swung to any angle and holds the cystoscope by a clamp (*d*), this being a ball-and-socket joint, giving a wide range of motion. To



Cystoscope holder.

the bar (*a*) is attached a holder (*e*) for centrifuge glass or test-tubes, into which urine is to be collected. It is more desirable and much simpler if Clamp *b* can be used for attaching the cystoscope holder to the table; but some tables are so constructed that this cannot be done. Then Clamp *f* must be used instead, which is attached to the leg-holder rod (represented in the illustration by *g*), through which clamp runs a horizontal bar supporting the rest of the apparatus. It weighs about 9 ounces.

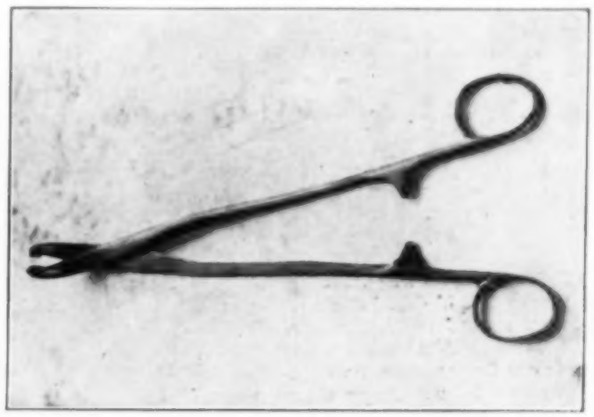
262 West One Hundred Thirteenth Street.

Public Education.—Restrictions of personal liberty, in order to be enforced and to be of any value, must be understood and supported by the public. But the people will only submit to such restriction of their individual liberty as they are convinced is necessary for their own good.

UTERINE SPECIMEN FORCEPS

W. C. GAYLER, M.D., ST. LOUIS

This is an instrument to facilitate the removal of small particles from the cervix uteri for microscopic examination, in order to determine the presence or absence of malignant changes. It removes a piece of the cervical mucosa and submucous tissue, with a cut as clean as a razor cut. The



Uterine specimen forceps.

specimen can be taken from the suspected spot with great precision, and more than one specimen can be taken from the patient if desired.

It is not necessary to dilate the cervix, or to use a volsellum forceps or an anesthetic. These specimens can be taken with great frequency during ordinary office examinations.

To the man who fears that the partial removal of a malignant growth might stimulate to active growth the part that remains, I suggest a procedure as follows: Prepare the patient for operation, remove one or more particles for examination, and then after the pathologist has given his report, begin the anesthetic.

The handle is 7 inches long. The part beyond the joint is 1¼ inches long. The disks are perfectly round, not oval, and are ¼ inch in diameter.

3905 Olive Street.

A NEW MOTOR-MEAL AND LAVAGE TUBE*

FRANK SMITHIES, M.D., CHICAGO

Stomach-tubes, as ordinarily made, seem to have the following faults: (1) the inferior rubber in their construction, which prevents sterilization by boiling (the only efficient method); (2) small lumina, which frequently render unsatisfactory the aspiration or expression of motor-meals or poorly chymified test-breakfasts; (3) improperly placed, too few or too small fenestra at their distal ends; (4) the incorporation

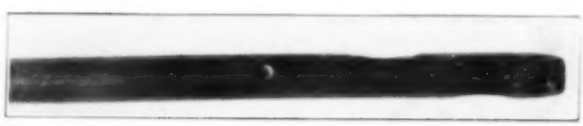


Fig. 1.—Distal end of tube, showing arrangement of fenestra.

into the tubes of "aspirating bulbs" of questionable service, which are difficult to keep clean. In an effort to remedy some of these defects, we have had constructed tubes of the type to be described. They have given greater satisfaction than any other form in the last fifteen hundred cases in the Mayo Clinic in which the test-meal examination was made.

* From the Mayo Clinic.

The tube is constructed[1] of the best quality of red rubber. The wall is 2 mm. thick and the lumen has a diameter of 9 mm. The tube is made in two sections, distal and proximal, connected by a thin, but strong, aluminum midpiece.

1. The distal segment of the tube is 90 cm. long. It has a distal opening of 1 cm. diameter. Beginning 1 cm. from this tip is a lateral fenestrum (Fig. 1) of ellipsoid form, 2 cm. long and 1 cm. wide. On the opposite lateral surface to this is a second similar lateral fenestrum, which begins 3 cm. from the tip of the tube. The fenestrum is placed at this point, not only to permit free siphonage of gastric contents, but also to facilitate the introduction of the tube. Its location, 3 cm. from the tip of the tube, is the average distance in different

Fig. 2.—Full view of tube, showing segments, markings and fenestra on distal segment and aluminum midpiece (segments separated to show this).

individuals from the pharyngeal bend of the tongue to the introitus esophagi. When the tip of the tube enters the pharynx, with the second lateral fenestrum toward the tongue, the subject's swallowing motions promptly bend the tube at this fenestrum and the tip glides readily into the esophagus. Using a tube with a distal end of this type, we have not entered the larynx more than a dozen times in our last five thousand cases. Eight centimeters from the tip of the tube are placed three round fenestra, of a diameter of 2 mm. They pierce the tube at the same level. This distal segment of the tube, beginning 10 cm. from its tip, is marked off by encircling black lines (Fig. 2), every 5 cm. for a distance of 55 cm. from the distal end. These markings permit of fairly accurate location of obstructions in the esophagus. The tube, in such instances, acts as a hollow sound through which the contents of esophageal sacculations and the like may be readily secured.

2. The connecting aluminum midpiece is 5 cm. long, with a wall 1 mm. thick and a lumen of 1 cm. diameter. It is slightly roughened and fits snugly into the rubber parts. It is non-rusting.

3. The proximal end of the tube is 60 cm. long. It may be replaced, when necessary, by an aspiration bulb which fits onto the metal midpiece.

The advantages of the type of tube described appear to be:

1. These tubes are durable; they may be boiled for months and still retain their form.

2. The lumen is large enough to permit free expression or aspiration of retention contents after the administration of a motor test-meal.

3. The distal fenestra are so placed as to permit the easy passage of the tube and the rapid siphonage or aspiration of gastric contents. Free lavage is readily carried on, either for the purpose of determining retention (as in hour-glass stomach) or for therapeutic effect.

4. The tube acts as a safe and convenient esophageal sound.

5. The aluminum midpiece replaces easily broken glass connections. It enables one rapidly to convert the straight siphon or lavage tube into one of bulbed type for the purpose of inflating the stomach with air and when expression of gastric contents proves difficult.

122 South Michigan Avenue.

1. These tubes are Goodyear make.

A SIMPLE DEVICE FOR PROTECTION AGAINST INFECTION IN NOSE AND THROAT EXAMINATIONS

J. F. Crouch and C. A. Clapp, M.D., Baltimore

Most devices which are used by the physician to lessen the danger of infection during examinations of the nose or throat are either so uncomfortable or so inconvenient that they are infrequently used. A very simple device which we have used with great satisfaction for several years consists of a pair of Jumbo-sized steel or aluminum spectacles with either plano or one's own correction for the lenses. To the nose-piece is fastened a piece of aluminum sheet which is bent to a V shape to allow room for the nose and extends downward to cover the mouth.

It serves to protect the eyes, nose and mouth from any spray and its great convenience in putting on or off, together

Device for protection against infection in nose and throat examinations.

with the ease with which it may be sterilized by boiling, would, I believe, make it popular with many.

513 North Charles Street.

APPARATUS FOR INTRAVENOUS INJECTION OF NEO-SALVARSAN IN CONCENTRATED SOLUTION

David Geiringer, M.D., New York

Instructor in Genito-Urinary Surgery and Syphilis, Post-Graduate Medical School

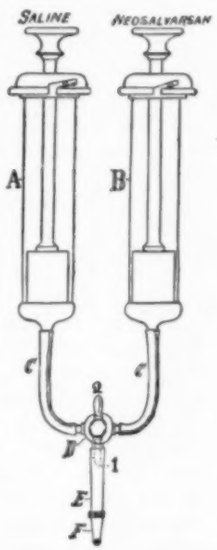
This apparatus is recommended for the intravenous administration of neosalvarsan according to the method of Ravaut.

It consists of two 20 c.c. record syringes (*A* and *B*), two pieces of rubber tubing 3 inches long (*C*, *C*), one piece of

tubing 1 inch long (*E*), a two-way valve (*D*) and a coupling for the needle (*F*).

The syringe *A* is filled with normal saline. Syringe *B* is filled with the neosalvarsan solution, which is prepared by dissolving 0.9 gm. in 20 c.c. of freshly distilled water at room temperature. If smaller doses are used, correspondingly less water is employed.

Syringe *B* being filled with the neosalvarsan solution, it is connected with one inlet of the valve *D* by means of the rubber tubing *C*. The air is expelled by advancing the piston into the barrel until some of the solution escapes from the outlet of the valve. The handle of the valve should be in position 2.



Convenient apparatus for the intravenous injection of neosalvarsan in concentrated solution.

Next, the handle of the valve is swung in position 1. The syringe *A* is filled with normal saline and connected with the valve *D*. The coupling and tubing are attached to the outlet of the valve. The air is expelled by injecting the saline into the tubing until it escapes from coupling *F*.

The needle, having been inserted into the vein, is connected with the syringes by means of the coupling *F*. The normal saline is first injected to determine if the puncture has been properly made. Usually 2 or 3 c.c. suffice. If the saline flows satisfactorily, the handle of the valve is swung back to position 2; this opens the way for the neosalvarsan, which is then very slowly injected, consuming from about five to eight minutes.

The object in using the saline is to avoid injecting the neosalvarsan around the vein into the subcutaneous tissues, causing painful infiltrations which persist for a long time. Even in the hands of the most skilful, the needle sometimes pierces both walls of the vein or has not penetrated deeply enough, allowing the escape of the solution into the surrounding tissues.

This apparatus is a very simple one and can be assembled at home. The valve can be obtained from any instrument dealer, while a No. 12 soft-rubber catheter suffices for the tubing. It can be used with any needle.

1186 Madison Avenue.

AN INEXPENSIVE SCREW-HOLDER FOR USE IN BONE-SURGERY

GILBERT L. BAILEY, M.D., OAK PARK, ILL.

A simple and inexpensive device for holding a screw in applying Lane bone-plates or fixing detached fragments of

Screw-holder for use in bone-surgery.

bone may be made of No. 13 copper-plated steel spring wire which can easily be bent and attached to an ordinary screwdriver, as shown in the illustration. The whole apparatus costs thirty cents and a little time, and I have found it of service in many bone cases.

The wire clip holds the screw until it is well started in the desired direction in the drill-hole prepared for it and it is released by pressing the wire with the thumb at the handle.

IMPROVED CUT-OFF: A MODIFICATION OF THE INSTRUMENT USED WITH THE VALENTINE IRRIGATOR

S. BYRON GOLDSMITH, B.S., M.D., PHILADELPHIA

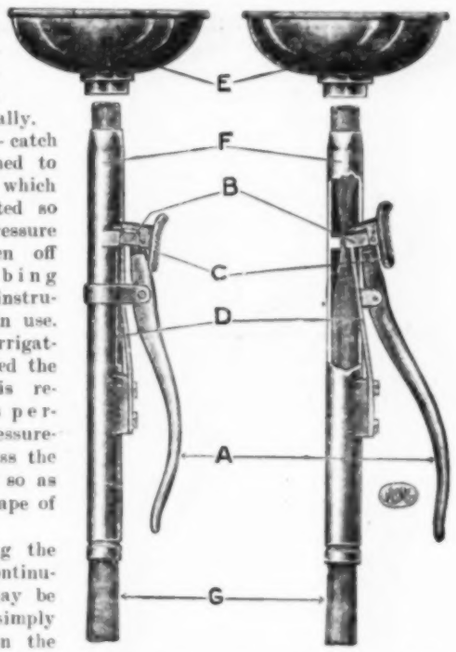
The accompanying illustration is that of a device which I have had constructed to facilitate urethral irrigations. It is a modification of the shut-off used with the Valentine irrigator. In irrigating the anterior urethra with the Valentine apparatus I found it difficult to manipulate for the reason that two hands are required to stop the flow of fluid after each washing. My own instrument requires the use of only one hand as the fluid can be shut off or turned on by simply operating the handle (*A*).

Within the metal casing (*F*) is a pressure-bar (*B*) which compresses the rubber tubing (*G*) by means of a strong steel spring (*D*). To allow the fluid to flow the handle is pressed down, thereby taking pressure off the tubing. When the anterior urethra is full, or when desired, the handle is released and the flow is shut off automatically.

A thumb-catch (*C*) is attached to the handle which can be adjusted so that the pressure may be taken off the rubber tubing when the instrument is not in use. Before the irrigating can is filled the thumb-catch is released. This permits the pressure-bar to compress the rubber tubing so as to prevent escape of the fluid.

In irrigating the bladder a continuous stream may be obtained by simply pressing on the handle and adjusting the thumb-catch.

247 South Thirteenth Street.

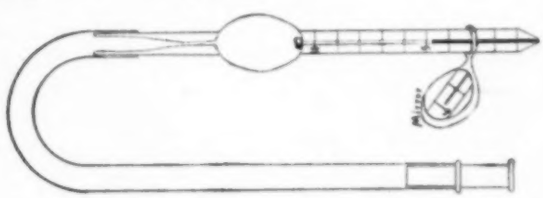


Improved cut-off; a modification of the instrument used with the Valentine irrigator; *A*, handle; *B*, pressure-bar; *C*, thumb-catch; *D*, spring; *E*, shield; *F*, casing; *G*, rubber tube.

SIMPLE ATTACHMENT FOR BLOOD-COUNTING PIPET

F. B. SCHROEDER, M.D., PRINCETON, ILL.

This attachment consists of a small mirror mounted on a split metallic clamp or ring, the bore of which is slightly smaller than the diameter of the pipet. This will allow of free movement of the mirror, which is held in place by the spring action of the split ring.



Mirror attached to blood-counting pipet.

By using this attachment the operator is enabled to observe the gradual ascent of the blood-column, and has no difficulty in obtaining the exact amount.

Therapeutics

PROTEIN POISONING—ANAPHYLAXIS—URTICARIA

(Continued from page 379)

DRUGS WHICH CAUSE ERUPTIONS

Urticarias, erythemas and scarlatiniform eruptions may be caused by belladonna, salicylic acid and arsenic or any of their salts or preparations, antitoxin, many of the volatile oils and drugs containing them (as copaiba, santal oil, turpentine), some of the synthetic compounds (as antipyrin, sulphonal, etc.), chloral, quinin and its salts, and opium and any of its alkaloids or preparations. These eruptions appear in some patients after a single therapeutic dose of any of these drugs; in others only when the drug is pushed, or when it has been given for some time. The frequency of idiosyncrasy against these drugs follows about the order in which they are named. Arsenic will rarely cause an eruption, unless it is pushed to full physiologic action. Some patients acquire a drug tolerance and no subsequent eruptions occur after the first dose or two. This is typically true of some persons who are susceptible to quinin.

Unless the drug is being pushed to full physiologic action with a definite object or a tolerance is expected and desired or the discomfort is unimportant, the drug should be stopped, a cathartic given, and soothing, bland mucous membrane sedatives should be administered, such as bismuth subcarbonate, sodium bicarbonate, milk of magnesia or slippery elm or flaxseed infusions. Even milk and starch-water are sometimes very efficient sedatives to the mucous membrane of the stomach and upper intestine if it has been irritated by a drug. Of course, it is possible that the drug has caused anaphylaxis and the irritant is already in the blood. Then the treatment consists of large amounts of water, a bland diet, alkalies such as potassium citrate, large doses of sodium bicarbonate, and perhaps calcium in some form.

Bromids and iodids frequently cause skin eruptions, occasionally after the first dose, but generally after a series of doses. An eruption quite generally occurs if these drugs are at all continuously given. Some patients, like epileptics or syphilitics, who are given large doses of bromids and iodids for a long time, become tolerant and do not have the skin eruptions, unless the dosage is very large. The iodid eruption is likely to be papular, but is rarely pustular. The bromid eruption is papular and frequently pustular, and the bromids may cause serious skin eruptions. It is sometimes thought that when arsenic is given coincidently with bromids this troublesome eruption is less likely to occur. It also should be remembered that if sodium chlorid is removed from or greatly reduced in the diet of the patient, such large amounts of bromids as were once given are unnecessary. Therefore, the eruption is less likely to occur. The iodids cause eruption less often than the bromids. The eruption from either drug rarely causes itching, but it takes some time for the eruption to disappear, even when the drugs have been discontinued.

The treatment of these eruptions is to stop the drugs, if possible, to cause thorough bowel elimination, to give hot baths or body bakes or electric light baths, and massage, as all tend to promote a more healthy condition of the skin. In fact, the bromid eruptions are less likely to occur if the skin is frequently cleansed and massaged during administration of large doses of the drug.

FEBRICULA

Some short-lived feverish conditions are still termed in medical books "febricula"; still, such a term only means an undiagnosed condition. A slight fever lasting but a day has been termed ephemeral; lasting several days, a febricula. Probably the majority of the feverish attacks which occur more frequently in children are due to some protein poisoning combined with an intestinal upset, and the condition caused is an anaphylaxis. They may be abortive attacks of an exanthem, or, in children, short attacks of glandular fever. They are not infrequently caused by a folliculitis of the nasopharynx, which not being readily seen, is not diagnosed. Inflammation of the adenoid tissue in this region may also cause a febricula. Such patients generally recover rapidly under any treatment, but, if possible, a diagnosis should be made and the proper treatment given.

URTICARIA

It is astonishing that most books on medicine give no description of this condition or of its treatment, though they mention it as a symptom in certain conditions, such as liver disturbance, etc.; but its discussion should be no more limited to books on diseases of the skin than the eruption of measles should be. Urticaria is not a skin disease, although it may be aggravated by certain skin conditions and perhaps also developed by certain disturbances, either vasomotor or of the nervous system.

The name "giant urticaria," sometimes used as a synonym for angioneurotic edema, should be reserved for serious large and changeable localized swellings. An angioneurotic edema may occur frequently or be present every morning, in a patient's hands for instance, but ordinarily carries with it no probability of danger. When it is distinctly localized and does not move from place to place, it may be due to a neurosis of the vasomotor system causing a local dilatation and exudate, with perhaps associated contraction of other vessels. It is a chronic condition and requires long-continued neurotic and nutritional treatment of the patient, although some gastro-intestinal disturbance may be present. Giant urticaria, on the other hand, is a serious, dangerous affection, especially if it attacks the face and mouth, as, when present, it is likely to do at any moment, and dangerous swelling in the throat and larynx may occur. This condition should be treated energetically, and the patient should be under close observation.

The treatment of giant urticaria is cathartics with calomel and saline cathartics; a milk diet, if milk agrees with the patient; or a plain water diet; or a cereal diet. Calcium should be given, and alkalies in large doses. Occasionally, large doses of quinin, such as 60 cg. (10 grains) twice a day, or good-sized doses of antipyrin, as 1 gm. (15 grains) three times a day, have seemed almost specific. Atropin pushed to physiologic action is sometimes of value. The exact cause of this serious condition has not been determined. Doubtless, however, it is anaphylactic and due to protein poisoning.

The causes of simple urticaria are food (protein) poisoning, intestinal parasites, poisoning by certain drugs, disturbances of the liver or kidneys, gout, conditions associated with an increased amount of uric acid in the urine, constipation, an abnormally dry skin, and, in fact, anything that impedes normal elimination. Circulatory disturbances, especially when combined with high blood-pressure or arteriosclerosis, may be factors in causing urticarial eruptions.

Urticaria may occur, however, from almost any feverish condition or from any infection, and simply becomes, then, an added symptom. Most frequently urticaria is the most important symptom, and from its intense itching is the cause of the patient seeking medical advice.

The treatment of simple urticaria has been suggested, namely, catharsis, a limited milk or cereal diet, large amounts of water, the administration of alkalies, such as potassium citrate in 2 gm. (30 grain) doses, given four or five times in twenty-four hours, or some other alkali, if preferred. Potassium citrate may be given as follows:

		Gm.	or	c.c.
℞	Potassii citratis	40	or	ʒ i
	Aquae gaultheriae	200		fl ʒ v

M. Sig.: Two teaspoonfuls, in water, every four hours.

If it is known that the stomach and intestines have been irritated, bismuth subcarbonate and sodium bicarbonate should be administered, and, if the patient does not quickly recover, some form of calcium.

The patient should be kept cool. Thin and non-irritating underwear should be used. If the patient is a child or one in whom the condition tends to recur, linen or silk underwear should be worn. Warm baths, the water made alkaline with sodium bicarbonate, are soothing to urticarial patients, and will relieve the itching. The skin should not be rubbed, but should be mopped, lest the drying process cause irritation and more itching. The localized spots may be sprayed with alcohol, cologne, or even mild acid applications, such as vinegar. Phenol solutions have long been used to dull the irritability of the peripheral nerves; a 2 per cent. solution, with or without glycerin often suffices, as:

		c.c.		
℞	Phenolis liquefacti	4		♏ xlv
	Glycerini	25	or	fl ʒ v
	Aquae menthae piperitae .....q. s. ad	200		fl ʒ v

M. Sig.: Use externally as a lotion.

[The preceding should be well shaken and should be labeled as poison.]

Sometimes such applications as "extract of witch-hazel" or a bland oil like almond oil will be soothing to the irritated skin. If the urticarial spots are not in large numbers, such applications as camphor or chloral, with or without menthol, are often valuable, as:

		Gm.	or	c.c.
℞	Camphorae			
	Chlorali hydrati .....āā	2	or	ʒ ss
	Glycerini	25		fl ʒ i
	Alcoholis.....q. s. ad	100		fl ʒ iv

M. sig.: Use externally. [Shake, and label as poison.]

		Gm.	or	c.c.
℞	Camphorae			
	Chlorali hydrati .....āā	2		ʒ ss
	Mentholis	1	or	gr.xx
	Glycerini	25		fl ʒ i
	Alcoholis.....q. s. ad	100		fl ʒ iv

M. sig.: Use externally. [Shake, and label as poison.]

Various dusting powders are often of benefit, especially in children suffering from this condition. The simplest is powdered starch or a talcum powder. Sometimes stearate of zinc, with or without menthol, is of value as tending to adhere to the region that is irritated.

When urticaria continues or recurs, as it does occasionally in its milder forms, the whole physical condition, diet and personal hygiene, of the patient must be very carefully investigated. Some wrong condition will be found and when it is corrected the disturbance will disappear. Especially must the intestinal digestion be studied and the urine tested for indican. If constipation or indigestion is sufficient to cause indican to appear in the urine, measures to prevent the absorption of the irritants will generally cure the urticaria. Occasionally in young or older persons in whom a high tension or arteriosclerosis has begun or who have insufficient kidneys, conditions of the skin exist that cause temporary reddening, and perhaps itching, with the least irritation.

The skin may be so hypersensitive as to allow of what is termed "dermographia." This condition is a pseudo-urticaria, and the treatments that tend to relieve urticaria will generally relieve this condition.

When there are angioneurotic edemas, a diminution of the sodium chlorid in the food will often be a valuable adjunct to the other treatment inaugurated. This is especially true if the kidneys are at all insufficient.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SEROBACTERINS.—Serobacterins are emulsions of bacteria which have been treated by the application of the corresponding specific immune serum.

Actions and Uses.—Bacteria so treated are supposed to contain specific amboceptors so that immediate union with the complement of the patient's serum is said to occur. Hence, their action is supposed to be more rapid than that of ordinary vaccines. They are also said to be free from the negative phase and the general and local reactions produced by ordinary vaccines.

The immune serum is obtained from goats or other animals that have been treated by the injection first of dead and later of living cultures of bacteria until the blood-serum shows a high titer of agglutinins, opsonins and other specific amboceptors. The bacteria are treated by mixing a filtered emulsion of twenty-four hours' growth of the bacteria on agar, the bacteria having been killed by heat, with the corresponding immune serum. The mixture is left for twenty-four hours at laboratory temperature (not exceeding 24 C.) with frequent shaking. Sufficient sterile saline solution is then added, and the mixture centrifugated for from five to six minutes. The supernatant fluid is removed, more saline solution added and the mixture again shaken and centrifugated. The supernatant fluid is again removed, and the bacteria are counted and standardized in the ordinary way. Since there is a possibility of the living bacteria producing infection, the sensitized bacteria should be killed either by heat or by disinfection.

Tests.—Complement-fixation tests have been applied for the purpose of ascertaining the extent of combination of the amboceptors of the serum with the bacteria. This seems to be the best available method, but a reliable quantitative method is still to be worked out.

H. K. Mulford Co., Philadelphia.

Staphylo-Serobacterin Mulford.—(Sensitized Staphylococcic Vaccine.)—Each package contains four syringes of Staphylo-Serobacterin graduated as follows: syringe A, 500 million killed sensitized staphylococci; syringe B, 1,000 million killed sensitized staphylococci; syringe C, 2,000 million killed sensitized staphylococci; syringe D, 4,000 million killed sensitized staphylococci.

Strepto-Serobacterin Mulford.—(Sensitized Streptococcic Vaccine.)—Each package contains four syringes of Strepto-Serobacterin graduated as follows: syringe A, 250 million killed sensitized streptococci; syringe B, 500 million killed sensitized streptococci; syringe C, 1,000 million killed sensitized streptococci; syringe D, 2,000 million killed sensitized streptococci.

Typho-Serobacterin Mulford.—(Sensitized Typhoid Vaccine.)—Each package contains four syringes of Typho-Serobacterin graduated as follows: syringe A, 250 million killed sensitized typhoid bacilli; syringe B, 500 million killed sensitized typhoid bacilli; syringe C, 1,000 million killed sensitized typhoid bacilli; syringe D, 2,000 million killed sensitized typhoid bacilli.

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SATURDAY, FEBRUARY 7, 1914

PROTEINS AND NUTRITION

In an exceptionally stimulating address before the New York Academy of Medicine, which was reported in some detail in THE JOURNAL,[1] Graham Lusk remarked, quite in harmony with the up-to-date ideas of nutrition, that proteins are especially valuable if they contain an array of constructive units, which, when reunited in the body, form body proteins. Proteins in which one or more of the necessary units or *Bausteine*, as they are now frequently designated, are lacking, can never be reconstructed into perfect body proteins. Professor Lusk adds that such inferior proteins are found in plants. Plant proteins are reconstructed by herbivorous animals into beef proteins, and thus, we are assured, beef proteins attain a higher biologic value than plant proteins. "There can be no doubt, in view of the results of experiment, that meat, fish, milk and egg proteins possess superior value to the vegetable proteins."

It is quite true, as physiologic chemists have demonstrated, that certain proteins, like gliadin and zein, of plant origin, are deficient in some of the groups that characterize the so-called "complete" proteins. Furthermore, we may be prepared to believe from the nutrition experiments notably of Abderhalden, Osborne and Mendel[2] that the animal organism is incapable of synthesizing some of the amino-acid units like tyrosin, tryptophan and phenylalanin *de novo*. Nevertheless, one cannot refrain from the inquiry whether any sweeping condemnation of the plant proteins in the sense here discussed is in reality justified. Whence do the animals that furnish us with beef and milk and egg foods derive some of these essential units if not from plant sources? Until evidence to the contrary is forthcoming we must assume that the herbivorous animals are quite as incompetent to synthesize certain of the units needed for their body proteins as is man. Will it ever become possible for man to obtain all the essential components conveniently or economically directly from the plant sources in ways that are not at present feasible?

A new field for consideration is opened up by the suggestion of Friedenthal, to which we referred last week,[3] that by suitable comminution of those parts of plants which are rich in protoplasmic constituents it may be possible to furnish, in a more available form, types of nutrients in the green vegetables which evade digestive usefulness in the current dietary practices. The vegetable proteins about which, thanks especially to the work of T. B. Osborne and his collaborators in this country, we are best informed, have been derived largely from the reserve tissues of plants — seeds, etc. Not until more facts are available about the proteins of other parts of plants will any final pronouncements of physiologic values be completely justified. Only in very recent times has the protein of the potato been disclosed as a food material of unexpected nutritive efficiency.[4] We are not advocating vegetarianism, but we believe it is too early to foresee what a more extensive investigation in the domain of plant-protein chemistry may disclose. With the growing scarcity and increasing cost of animal products, it behooves us to study exhaustively every scientific means by which the necessity of securing the essential nutritive units through the expensive intermediation of the plant-eating animals may be obviated. Hitherto some of the vegetable products have been considered by physiologists almost entirely from the point of view of their significance as accessories to the dietary of man. The investigations of Strauch,[5] which indicate that even the green parts of plants notably rich in indigestible cellulose may become nutritively useful to man, may lead to new discoveries. Dietary prejudices are slow to be overcome, though it must be admitted that not infrequently they conceal unsuspected elements of physiologic wisdom.

A FOREIGN IMPRESSION OF AMERICAN HOSPITAL SOCIAL SERVICE

There is a certain satisfaction to be derived from the praise, however qualified it may be, that comes to us from foreign shores. This is particularly true with respect to things medical, in the organization and conduct of which America has, as yet, done little more than serve an effective apprenticeship. Germany has so long been held before our eyes as a model of the best in everything pertaining to the activity of the physician and the therapeutic world in which he lives, that a word of commendation from German sources is gratifying. The development of the system of hospital social service, introduced at the Massachusetts General Hospital in Boston in 1905 and since then widely followed throughout the larger cities of the United States, has lately

1. Lusk, Graham: The Fundamental Basis of Nutrition; abstr., THE JOURNAL A. M. A., Dec. 27, 1913, p. 2317.
2. Mendel, L. B.: The Rôle of Proteins in Growth, Tr. Fifteenth Internat. Cong. Hyg and Demog., 1913, ii, 429.
3. The Availability of Nutrients from Plant Sources, editorial, THE JOURNAL A. M. A., Jan. 31, 1914, p. 380.
4. Hindhede, M.: Untersuchungen über die Verdaulichkeit der Kartoffeln, Skand. Arch. f. Physiol., 1912, xxvii, 277.
5. Strauch, F. W.: Fein zerteilte Pflanzennahrung in ihrer Bedeutung für den Stoffhaushalt, Ztschr. f. exper. Path. u. Therap., 1913, xiv, 462.

been pleasingly referred to in a magazine devoted to the interests of women in Germany. Mrs. Strauss,[1] wife of the Berlin clinician Prof. Hermann Strauss, calls attention to the evolution of the system of hospital service in this country, its aims and accomplishments, and contrasts it with the less progressive beginnings which are to be found in the hospitals of Europe. We must confess that there is much in her complimentary review that deserves to be brought forcibly to the attention of American women to whose care the execution of these non-medical aspects of hospital activity must inevitably be committed.

Social service has been defined as the application of sound common sense to the end of making the sick well. To this we may add that it is necessary also to keep them well and capable of earning a living, and to avert any recurrence of disease. Besides the physician, who is brought into the closest contact with a patient, few persons realize what manifold factors play on the life of the sick — particularly the needy sick or those on whom others are dependent — and hamper the progress of returning health by the mental influences which they exert on the patient. It thus becomes the duty of the social service worker to investigate the conditions of living and employment, the family relationships and responsibilities of those who have succumbed to severe illness, and by assuring suitable care and protection to the family, uninterrupted maintenance for a threatened home, or the continuance of a wage-paying employment, to bring healing comfort to the helpless. The physician needs no demonstration of the helpful therapeutic effects which follow the establishment of "peace of mind" in a worried patient; and frequently the establishment of a correct diagnosis is facilitated on removal to a hospital by the patient's relief from the mental strain due to his environment and obligations. Other features of enforced confinement in the sick-room also demand the grateful ministrations of the social-service devotee. The patients need to be entertained and encouraged, and to have occupation for the long hours of convalescence. They need, not infrequently, to be prepared for the new occupations sometimes made necessary by injury or the ravages of disease. Their life after release from the hospital must often be completely altered to meet new conditions.

Mrs. Strauss points out that the universal workingman's insurance and compensation acts introduced by the German government have rendered certain features of the hospital social service of less immediate necessity in Germany. This entire field of social and humanitarian endeavor has only begun to be cultivated. Successful methods have yet to be developed to meet constantly changing economic conditions and hygienic innovations. The day must come when every American hospital will possess its social service department.

1. Strauss, Elsa: Soziale Fürsorge in amerikanischen Krankenhäusern, Monatschr. *Die Frau*, 1913, xxi, No. 3.

A NEW METHOD OF INVESTIGATING THE CIRCULATING BLOOD

There are numerous substances, both among those which take part in the normal metabolic transformations of the organism and among those which are present by some fortuitous circumstance, that traverse the body in the circulating blood in quantities too small to be isolated or measured satisfactorily. The rapidity with which compounds that enter the circulation again escape, either by transference to the tissues or by excretion through various channels, has hitherto made it almost impossible to follow them in their migrations in the body. In various discussions regarding the fate of absorbed amino-acids, for example, we have pointed out how difficult it has been until quite recently to secure competent evidence that these protein derivatives actually ever pass the alimentary barrier and circulate as such; for at any moment a given specimen of blood withdrawn at any point of either the portal or systemic circulation could contain at best only traces of the substances searched for. In the course of hours the continually renewed blood-stream can, of course, carry very large quantities of products from one region to another in the body, though at any moment the concentration of the material in question in the blood may be exceedingly small. The removal of large specimens of blood from living persons for analysis is not compatible with normal functioning; hence such a procedure is likewise precluded. Physiologists have time and again conjectured that certain compounds must arise as intermediary products in the transformations of the ingesta in metabolism; but owing to the inherent difficulty of detecting them, as just rehearsed, it has been impossible to verify the hypotheses. For the most part it has been necessary to content ourselves with a definite appreciation of the beginning and the end, with the intake and the final output product, and to test the theory of the mechanism of this conversion by indirect modes of experimentation. There are few physiologic substances, not to mention abnormal components of the organisms, for which we are able at present to describe the chemical form in which they travel in the body. The physician who administers a drug is in many instances left to judge by somewhat indefinite responses whether or not it has penetrated to the tissues or organs that he has hoped to influence; and the pharmacologist entrusted with a more accurate and reliable determination of the same question has been obliged in many instances to depend on criteria scarcely less crude. Particularly in the case of agents which act in very small dosage it is rarely possible to be certain that the drug actually enters the circulation or that a given concentration of it is distributed, unless some definite response, like an obvious cardiac, neuromuscular or secretory response, is elicited.

At the International Medical Congress in London last summer and later at the International Physiological

Congress in Groningen, Abel, Rowntree and Turner[1] of the Johns Hopkins Medical School gave a brilliant demonstration of a method which will remove from the flowing blood traces of substances present in only minute quantity at any one time. It consists of a process by which the blood of a living animal may be submitted to dialysis outside the body, and again returned to the natural circulation without exposure to air, infection by micro-organisms, or any alteration that would necessarily be prejudicial to life. The Baltimore investigators have referred to the method as "vividiffusion." Essentially, it consists in connecting an artery by a cannula to a tube or series of tubes made of celloidin or other suitable dialyzing membrane and immersed in a saline solution or artificial serum. The return of the blood to the animal's body is provided for by another cannula attached to a vein. In this way the blood leaving the artery flows through a perfectly closed system and returns to the body within a minute or two, while the diffusible substances which it contains can pass out, more or less rapidly, through the walls of the tubes. The condition is not widely different from what may be conjectured to prevail naturally in certain regions of the intact circulation, except that in the artificial schema the products of diffusion can be withdrawn and examined at will. As an instance of what can be accomplished, it may be cited that an anesthetized dog was kept alive during a dialyzing period of sixteen hours, with about one-third of its blood outside the body.

Experience thus far gathered indicates that this process of "vividiffusion" may be allowed to proceed for several hours without inducing any untoward effects or injuring the animal in any way. The blood is then returned completely to the donor. The apparatus has been termed an artificial kidney, because it can remove certain products from the circulation precisely as does the natural kidney. It differs from the latter in that it makes no distinction between the diffusible constituents.

Any component like sugar, etc., can be retained, however, by a simple expedient. When foreign substances like salicylates are introduced into the individual they can be recovered from the diffusiate quite as readily and in as large amounts as those which are normally removed by the renal excretory apparatus. The fact that the application of the apparatus is not prejudicial to life leads the investigators to suggest the more remote possibility that during numerous toxic states in which the eliminating organs, more especially the kidneys, are incapable of removing from the body at an adequate rate, either the native or the foreign substances whose presence in excess is detrimental to life processes, the vividiffusion method may find application. Human therapeutics might thus be able to provide a substitute in such emergencies and tide over dangerous crises.

1. Abel, J. J.; Rowntree, L. G., and Turner, B. B.: Removal of Diffusible Substances from the Circulating Blood by Means of Dialysis. Tr. Assn. Am. Phys., 1913; the details are published in Jour. Pharm. and Exper. Therap., 1914, v, 275.

For the present the value of the method consists in the light which it promises to shed on the little-known diffusible substances normally present in the blood and on the nature of certain intermediary stages of metabolism. A field of investigation is further opened in the comparative study of the blood flowing to and from various organs with reference to the substances which they extract from, or add to, the general circulation. The possibility of thereby detecting the nature of some of the internal secretions or active principles of glandular organs at once is suggested. Now that a procedure is available for accumulating the non-protein nitrogenous constituents of the blood other than urea in any desired amount, we may look forward to details which will give a new picture of the composition of the circulating fluid of the body in health and in disease.

"RELIGIOUS DAILY" RESORTS TO FALSEHOOD

By this time the medical profession and the public have become thoroughly familiar with the fact that the lie indirect is the favorite tool of the antivaccinationist, the antivivisectionist, and all the rest of the militant perjurers who misdirect the ideas of their followers and who attempt to mislead the public. Unfortunately, it is not so easy for the layman to recognize this form of deceit, and hence the success of this method in leading him astray. The person who so garbles a quotation that even the fair-minded reader is misled into believing the author to stand for things that he really most strongly opposes can be ranked only with the most contemptible of moral delinquents. A typical and most pernicious example of this repulsive form of dishonesty was perpetrated by the *Christian Science Monitor* of Friday, January 23, and marked copies of this publication have been scattered with prodigal liberality throughout the country. We are not informed what unselfish philanthropists furnished the necessary funds to finance this broadcast distribution, but evidently there are persons or organizations willing to spend money in an attempt to convince the public that consumption is not dangerous.

The article is based on our editorial of January 3, reviewing the address of Dr. E. R. Baldwin, in which he emphasized the importance of infection in childhood in the production of pulmonary tuberculosis, and expressed the conviction that there is very little danger of adults acquiring a new infection from contact with consumptives. By quoting from this editorial with quotation marks, carefully omitting essential qualifying phrases, and then drawing his own unwarranted conclusions, the writer in the *Monitor* skilfully conveys the impression that the medical profession has finally determined that tuberculosis is not a transmissible disease, that it is a rank waste of public money to build hospitals for consumptives, that the publicity campaign "was ostensibly intended to warn the public against the ravages of the disease," and that it "has served only to

spread in the thought and hearts of hundreds of thousands a paralyzing fear that never should have been created."

We print below the quotation, not as printed in the *Monitor,* but resupplying in brackets the very essential phrases which the garblers so carefully left out.

"Adults are very little endangered by close contact with open tuberculosis, and not at all in ordinary association. [Childhood is the time of infection, youth the time of superinfection, and that from extension of the primary disease.] Qualify these statements as we may, it is time for a reaction against the extreme ideas of infection now prevailing. There has been too much read into popular literature by health boards and lectures that has no sound basis in facts, and it needs to be dropped out or revised. [More protection of children and better hygiene for adults are logically demanded, but beyond this] the preachments about the danger of infection to adults in the present state of society are without justification from an experimental standpoint. [The statements which we have quoted] represent not one man's views, but what seems to be the growing conviction of [many of] the most progressive and thoughtful students of tuberculosis at the present time."

As will be at once evident, the elisions in brackets entirely alter the statements made by Dr. Baldwin. No one capable of understanding the paragraph as given in full would see in it any grounds for attacking the building of tuberculosis hospitals, or of reducing in every possible way the spread of tubercle bacilli, especially in the home and in public places, where children, with resistance as yet not developed, may readily acquire an infection more extensive than they can possibly overcome. Yet, in the year 1914, with the enormous reduction in the tuberculosis mortality an absolutely established fact throughout the civilized nations following sanatorium treatment and public health methods for restriction of the disease, there are still persons whose minds are so warped and atrophied by religious fanaticism that they would attack and endeavor to abolish all these safeguards of the health of both sick and well. And in their efforts to do so, they do not hesitate to misrepresent and deceive their readers and the public.

TOBACCO-SMOKING AND THE CIRCULATION

It cannot be said that there is a dearth of literature on the relation of tobacco-smoking to health. The data available are, however, tinged in large measure with all manner of biases; and even where the subject has been approached with an "open mind," there is no guarantee of sanity in the conclusions which have been reached. The circulatory mechanism of man is continually played on by conflicting impulses, so that the conditions of blood-pressure and pulse-rate that prevail from time to time may be the outcome of regulatory influences and directive forces so diverse and changeable as to defy the powers of immediate interpretation. Here, as elsewhere in medicine, many an error of conclusion has been committed because of inability to distinguish the causal factor from a large number of variable agencies. We recall that R. C. Cabot has rejected the evidence that alcohol, for example, is so potent an influence in causing degeneration of the blood-vessels as has been frequently argued. To quote a recent writer, "in a middle-aged man who has drunk freely, eaten largely and worked hard, it is impossible to say which of these factors is responsible for the degeneration of his blood-vessels." In view of the foregoing it is not strange that Osler should remark that tobacco is another poison about which it is very difficult to get conclusive evidence.

The modern equipment of the clinical laboratory has made it possible to study certain phenomena with a degree of precision formerly unknown. Accurate determinations are incomparably safer guides to convincing conclusions than guess-work impressions, which are still so largely (and necessarily) the characteristic stock in trade of the clinical observer.

Dr. John,[1] in the clinic of Volhard at Dortmund, has made a recent study of the influence of tobacco-smoking on the circulation. The question at issue involves the effect on the blood-vessels of continued smoking to a degree not productive of obviously toxic phenomena.[2] At the outset it may be admitted on the authority of the hygienist Prof. K. B. Lehmann of Würzburg that, aside from the alkaloid nicotin, the other constituents of tobacco-smoke, namely, carbon monoxid, hydrogen sulphid, hydrocyanic acid, pyridin and its homologues, are without toxic importance in the concentration and under the conditions in which they are ordinarily manifested in smoking. The debate on the cigar versus the cigarette, on "strong" versus "mild" cigars remains untouched.

Dr. John's blood-pressure measurements indicate that the smoking of two "medium" cigars evokes characteristic alterations in arterial pressure in typical cases. Even during the act of smoking there may be evidence of undeniable rise in diastolic pressure, and the effect may persist for as long as two hours. The essential feature in the nicotin effect on the vasomotor apparatus consists in a constrictor stimulus to the vessels which results in increased tonus. The behavior of the pulse-rate is variable. Eight or ten Russian cigarettes give a vasomotor result comparable with two "medium" cigars. Cigars of low nicotin content do not produce a recognizable effect on the circulation.

Despite the interfering complications attributable to pressor and depressor influences, which enter in diverse ways into the daily routine, the smoking of from eight to ten cigars, or from twenty-five to thirty cigarettes

1. John, H.: Ueber die Beeinflussung des systolischen und diastolischen Blutdrucks durch Tabackrauchen, Ztschr. f. exper. Path. u. Therap., 1913, xiv, 352.
2. Nicolai, G. F., and Staehelin, R.: Ueber die Einwirkung des Tabackgenusses auf die Circulationsapparate, Ztschr. f. exper. Path. u. Therap., 1908, viii.

during the course of the day is by no means negligible, if we may believe the statements made by John. The widely current impression, based in part on experimental investigations, that nicotin can produce vascular alterations in the sense of sclerotic changes is thus confirmed. We may argue as we will that habitual smokers have consumed extraordinary quantities of tobacco over long periods without signs of vascular change, and that it is difficult to believe that tobacco can, as a rule, have any important influence beyond what the ordinary wear and tear of life itself would warrant. Nevertheless, we are in duty bound to take cognizance of careful blood-pressure measurements and to consider seriously the advisability of extreme moderation in smoking, to say the least, in conditions where the familiar untoward possibilities are threatened. Indifference to scientific evidence is an intolerable attitude.

EVASION OF ENTRANCE REQUIREMENTS TO MEDICAL COLLEGES

Those familiar with conditions in some of the medical colleges of Chicago will not be surprised at the "story" which appears this week in our Medical Education Department.[1] The investigation shows that fraudulent credentials of preliminary education, secured through a local institution, have been accepted by a Chicago medical college. The fact that this story centers around one school is merely incidental: the information which led to the investigation pointed quite as much to two other local colleges as it did to the one in question. The acceptance of questionable entrance credentials prevails to a greater extent in Chicago than elsewhere, although makeshifts if not fraudulent devices for admitting medical students whose qualifications are below the standard are employed in probably two or three other cities. Not only are these efforts to nullify the medical practice act or the rules established by state boards dishonest, but also they work a serious injury to the medical student, who is laying a foundation for his life's work. He is led to believe that he has a satisfactory and adequate preliminary training, when he is, in fact, entirely unprepared for the complicated and difficult course in medicine which is to follow. He is permitted and encouraged to enter a medical college with inferior qualifications, when he should be spending his time in securing the proper foundation for his medical course. By the time he has realized his deficiencies, it is too late for him to go back and make up his shortcomings. As a result, he is handicapped throughout his professional career, the medical profession is burdened with another half-trained member and the public is endangered through a physician whose training is not what it should be.

The necessity for thorough preliminary training as a condition for admission to the modern medical college cannot be too strongly emphasized. There may have been a time when a knowledge of the three R's was sufficient for the medical student. That time, fortunately for the public, is past. In recognition of this fact, efforts are now being made by the proper authorities in practically every state to raise the standard of entrance requirements for medical colleges and to require one or two years of college work, in addition to a standard high school course. The medical colleges themselves, in the main, are endeavoring to elevate their own standards. Approximately seventy of the one hundred and six medical colleges in the country are now requiring one or two years of college work in addition to a high school course. In all of the states, a four-year high school course, or its equivalent, is properly regarded as the lowest educational preparation which can be accepted from any prospective medical student. Yet in Chicago some of the medical colleges are not enforcing even this minimum requirement, but are accepting credentials based on little or no actual work. Such a practice is not only an evasion of the law, it is unfair to the medical student, the profession and the public. On whom rests the blame? While the moral responsibility may rest on the colleges implicated, it must be remembered that commercial medical colleges are conducted for gain and not for altruistic purposes, and that so long as such colleges exist, so long as they are dependent for their support on student fees, and so long as no effective control is exercised over them, just so long will such practices continue.

The blame and the responsibility clearly rest on the officials appointed by the state to safeguard the rights and interests of the public in such matters, namely, the state licensing board. This board constitutes the only barrier between the public and the incompetent physician. It is not compelled to adopt detective methods to secure the facts. It is not necessary for it to carry on any lengthy investigation. It can demand detailed information concerning the schools attended and the credentials presented by every student who enters these medical colleges; and it is the only body that can legally make such a demand. Meanwhile, the fact that the conditions referred to exist in Chicago should not be considered a reflection on the recently appointed state licensing board of Illinois. It is hoped that this new board will perform its duty in a conscientious manner, and that the people of the state may not look to it in vain for protection against these credential mills and against illiterate and unqualified physicians.

1. See page 477

Tuberculosis in the Army in 1912.—According to the *Army and Navy Journal*, the highest rate for tuberculosis in the army barracks for the calendar year of 1912 occurred at Vancouver and Fort Flagler, Wash. At Vancouver there were twenty-three cases with a rate of 17.87 per thousand; at Fort Flagler, a rate of 13.25 per thousand. Of 273 cases of tuberculosis in the Army in 1912, seventy-three, and in 1911, out of 258 cases, sixty-eight were detected in the first year of service.

Current Comment

KNOWLEDGE VERSUS SUPERSTITION

The statement nas been frequently made, by those who are endeavoring to utilize all of our present-day scientific knowledge for the prevention of disease, that Christian Scientists both as individuals and as an organization are doing everything in their power to obstruct the public health movement. This has been strenuously denied by the leaders of this cult. Elsewhere we comment on the dishonorable methods used by the *Christian Science Monitor* to misrepresent the position of THE JOURNAL and of the medical profession regarding consumption. If the garbled and distorted "quotation" which the *Monitor* tried to make its readers believe was taken from THE JOURNAL of the American Medical Association had been given only the circulation which the *Monitor* itself enjoys, comparatively little harm would have resulted. But it develops that the misrepresentation and editorial dishonesty of the *Monitor* was only a part of a carefully conceived plan for misleading the general public. A large number of copies of the *Monitor* containing the discreditable article have been sent broadcast, especially to the newspapers. These were specially printed with heavy black rules at the sides to call attention to the article. How many of these marked copies have been sent it is impossible to say, but copies have been pouring in to the Association office from physicians and newspapers all over the country. With this positive evidence of deliberate and intentional misrepresentation and falsification on the part of the *Monitor*, and of carefully laid plans to give such deceptive material the widest publicity possible on the part of the leaders of the Christian Science Church, it is impossible for this sect to disavow any longer its deliberate purpose to obstruct and hamper in every way possible the campaign for the prevention of disease and the saving of human life. THE JOURNAL of the American Medical Association and the scientific medical profession of the country are perfectly willing to join battle on this issue with the fanatical adherents of reactionary religious beliefs based on antiscientific mysticism. We have no fear as to the verdict of public opinion when the case is tried between triumphant and ever-advancing scientific knowledge on one hand, and superstition and ignorance on the other. This battle has been fought many times before in past ages, and scientific truth has always been victorious. We regret, however, that the ignorance of the *Monitor* on the subject of consumption is equaled only by its lack of editorial honesty, else it would not have attempted the manifestly foolish effort to put THE JOURNAL in a false position by so stupid a device as that of a garbled and mutilated quotation.

THE EARLY HISTORY OF INFANTILE POLIOMYELITIS

Dr. Werner Leo[1] of Charlottenburg has recently given an interesting historical summary of the Heine-Medin disease, from which we glean the following facts: The date usually assigned for Heine's original description of the disease is that of his celebrated monograph of 1840, with its memorable illustrations, the second edition (1860) first introducing the term "infantile spinal paralysis" (*spinale Kinderlähmung*). It appears, however, that Heine had already rendered a short but definite report of the disease to the medical section of the Society of German Naturalists and Physicians in 1838, presenting a case in a 12-year-old girl. But even before this, Dr. John Badham[2] of Worksop, England, had published "Four remarkable cases of suddenly induced paralysis in the extremities occurring in children, without any apparent cerebral or cerebrospinal lesion." These are all well-authenticated cases of infantile paralysis in 2-year-old patients, occurring at close intervals of time in the same locality. Three of these cases had been seen by the author's father, the well-known Dr. Charles Badham of London, whose little book of 1808 is the first account of bronchitis, the term having been introduced in his second edition of 1814. Thus the name of Charles Badham is now associated with the original description of two new forms of disease. It appears that Heine, on page 27 of his monograph of 1860, had already noted the possibility of the contagious or epidemic character of infantile paralysis. The next delineations in order of time were those of the French pediatricians, Rilliet and Barthez; but Charcot's masterly description of 1870, with full necropsy,[3] is the most important. In the summer of 1887, O. Medin observed the first epidemic incidence of the disease (forty-four cases) in the city of Stockholm. Flexner's observations on the experimental production of poliomyelitis (1909-1910) and his isolation of the germ (1913) are events of yesterday.

1. Leo, Werner: Die Heine-Medinsche Krankheit (etc.), Leipsic diss., Halle, 1913.

IODIN IN THE THYROID AND PARATHYROID GLANDS

Ever since Baumann first described the occurrence of iodin in the thyroidal tissues speculation has been rife as to the physiologic significance of this element in relation to the gland. The probability of its functional importance would, of course, be decidedly increased if it were demonstrated that iodin is an invariable constituent of the thyroid gland. There are records of negative findings, usually in the case of the thyroids of children, and particularly in the literature of a decade ago. Meantime the methods of detecting minute traces of iodin in animal tissues have been improved so that with Hunter's procedure 0.01 mg. can be approximately measured. Where such delicate methods have been applied the results have commonly given support to the theory that iodin may be expected in all thyroid tissue. On the other hand, the evidence at present available strongly suggests that the parathyroids are devoid of iodin, the traces now and then reported being attributable to contamination with thyroid tissue.[4] This fact, as far as it goes, gives additional indication in con-

2. Badham, J.: London Med. Gaz., 1835-1836, xvii, 215.
3. Charcot & Joffroy: Arch. de physiol. norm. et path., Paris, 1870, iii, 134-152, 2 pl.
4. Cameron, A. T.: The Iodine Content of the Thyroid and of Some Brachial Cleft Organs, Jour. Biol. Chem., 1914, xvi, 465.

formity with other physiologic evidence, of the differentiation of function between the thyroid and parathyroid.

WELL-MEANING, BUT NOT QUITE SCIENTIFIC

A dairyman at Jamaica Plain, Mass., has the following notice concerning his milk printed on the end of his monthly bills: "From our own herd of tubercular tested cows." One of our readers, to whom such a bill was rendered, suggests that while the information was rather startling, he has reason to believe that the milk in question is of better quality than the milkman's scientific English.

Medical News

ARKANSAS

Personal.—Dr. and Mrs. Corydon M. Wassell, Little Rock, left January 28 for China. Dr. Wassell will be stationed at Wu Chang in the province of Hankow.——Dr. Harry W. Browning, Little Rock, has been appointed assistant division surgeon of the Missouri Pacific and Iron Mountain System to succeed Dr. Melvin E. McCaskill, resigned.——Dr. W. L. Sadler has succeeded Dr. Harry W. Browning as house surgeon of St. Vincent's Hospital, Little Rock.——Dr. Morgan Smith, president of the State Board of Health, has been appointed collaborating epidemiologist for Arkansas, by the Surgeon-General of the United States Public Health Service.

New Officers.—Faulkner County Medical Society at Conway, January 16: president, Dr. George W. Blakely; secretary-treasurer, Dr. Joseph S. Westerfield.——Bowie County Medical Association at Texarkana, Dec. 29, 1913: president, Dr. Benjamin C. Middleton, Point Cedar; secretary-treasurer, Dr. John M. White, Texarkana.——White County Medical Society: president, Dr. Isaac R. Majors; secretary-treasurer, Dr. John L. Jones, both of Searcy.——Crawford County Medical Society: president, Dr. M. S. Dibrell; secretary, Dr. Othello M. Bourland, both of Fort Smith.——Franklin County Medical Society: president, Dr. Thomas B. Blakely, Coal Hill; secretary-treasurer, Dr. Thomas Douglass, Ozark.——Jefferson County Medical Society at Pine Bluff: president, Dr. Thomas W. Woodul; secretary-treasurer, Dr. John T. Palmer, both of Pine Bluff.——Lonoke County Medical Society: president, Dr. John C. Chenault; secretary-treasurer, Dr. John F. England, both of England.——Jackson County Medical Society at Newport: president, Dr. Ira H. Erwin; secretary-treasurer, Dr. Henry O. Walker, both of Newport.——Pulaski County Medical Society at Little Rock: president, Dr. Alexander E. Harris, Little Rock; secretary, Dr. William T. McCurdy.——Arkansas Society for the Prevention and Study of Tuberculosis at Little Rock: director, Dr. Tillman B. Bradford, Cotton Plant.

CALIFORNIA

State Board Appointments.—Dr. Donald H. Currie, San Francisco, U. S. P. H. S., was appointed a member of the State Board of Health, December 20. At the meeting of the board, January 3, he was elected secretary to fill the vacancy by the resignation of Dr. William F. Snow, Sacramento.——Dr. Edward F. Glaser, San Francisco, has been appointed a member of the State Board of Health, vice Dr. Frank K. Ainsworth, San Francisco, resigned.

Personal.—Dr. James F. Peattie has succeeded Dr. Howard C. Massziger, and Dr. Lionel D. Prince has succeeded Dr. Russell C. Ryan of the staff of the San Francisco Emergency Hospital.——In the damage suit of J. B. Cook against Dr. John I. Boyer, Los Angeles, for alleged malpractice, the court decided in favor of Dr. Boyer, January 6.——Dr. Morton R. Gibbons, San Francisco, has been appointed medical director of the State Industrial Accident Commission.——Dr. Albert E. Myers has been appointed assistant in pediatrics in the University of California Hospital, San Francisco.

New Teaching Hospital for University.—The gift of $125,000 by an unknown friend for a children's department has now completed the fund of $615,750 which has been raised for building a new teaching hospital for the University of California Medical Department. Among the other principal contributors are John M. Keith of San Francisco, who has given $150,000 in memory of his wife, and four members of the Crocker family, who have given $150,000 in memory of George Crocker, himself the founder of the Crocker cancer research fund of Columbia University. The givers of the George Crocker fund are Mrs. Harriet F. Alexander, $50,000; William H. Crocker, $50,000; Charles Templeton Crocker, $25,000, and Mrs. Malcolm Whitman, $25,000.

Hospital Notes.—The first patients were received at the new Los Angeles Jewish Consumptive Relief Association Sanatorium, Duarte, January 11. Twelve specially constructed tents have been installed. The formal opening of the new fifty-room building will take place this month.——Physicians of Lodi at a meeting Dec. 20, 1913, have decided to build a twenty-room hospital in that city.——The residence of Dr. Arthur A. O'Neil, medical superintendent of the San Francisco Isolation Hospital, was damaged by fire to the extent of $1,000, December 20.——A new hospital is to be built by the Methodists of Southern California, at Los Angeles. The first building to be erected will be 140 by 72 feet, and will be the central building. Two wings will eventually be added, and the complete hospital will represent an outlay of $250,000 and will accommodate 250 patients.

ILLINOIS

New Officers.—Douglas County Medical Society at Tuscola, January 24: president, Dr. I. Newton C. McKinney, Murdock; secretary-treasurer, Dr. Walter C. Blaine, Tuscola.——Perry County Medical Association at Duquoin, January 21: president, Dr. Elmer J. Burch; secretary-treasurer, Dr. Rolla D. Pope, both of Duquoin.

Personal.—Dr. Max C. Hawley, assistant superintendent of the Watertown State Hospital, has been appointed assistant superintendent of the Elgin State Hospital.——The fiftieth anniversary of the wedding of Dr. and Mrs. John P. Riggs, Media, was celebrated January 28, by more than one hundred friends and relatives of Dr. and Mrs. Riggs.

Prevention of Nervous and Mental Diseases.—Action has been taken in Illinois for a campaign of education for the prevention of nervous and mental diseases, according to a bulletin issued by the State Charities Commission. In January, 1914, a committee composed of Dr. H. D. Singer, director of the State Psychopathic Institute; Dr. E. A. Foley of the Jacksonville State Hospital, and A. L. Bowen, at the meeting of the State Hospitals Medical Association with the Chicago Neurological Society, presented a report on "A Practical Campaign for the Prevention of Nervous and Mental Disease." The plan of the committee did not consider sterilization, sex hygiene or eugenics as important remedies, but urged only those measures on which all authorities agree. The campaign of education to be conducted includes the use of space in newspapers for the publication of facts about the Illinois state hospitals; cooperation between the press and state charities; publication in popular magazines of articles written for the laity; compulsory psychiatry in all medical colleges, and psychopathic wards in general hospitals; a system of care for patients after they leave the hospitals, and a system of outpatient service to advise patients in detention hospitals and homes. The report also urges a revision of the commitment laws, so that the insane may not be thrown into jails, or held for trial like criminals.

Chicago

Immigration Station Opened.—The new immigration station at 845 South Wabash Avenue was opened January 28. Dr. Percy L. Prentiss, head of the local Bureau of Immigration, is in charge of the station.

Personal.—Dr. Frances Dickinson has been elected president of the Artcraft Institute Guild.——Dr. Benjamin H. Breakstone has resigned as president of the medical staff of the Maimonides Kosher Hospital.——Dr. Howard L. Beye has been appointed assistant in the department of surgery in the University of Iowa.

Tuberculosis Institute Election.—At the eighth annual meeting of the Chicago Tuberculosis Institute, January 29, the following officers were elected: president, Dr. Theodore B. Sachs; vice-presidents, Dr. Robert H. Babcock and Mr. George W. Perkins; treasurer, Mr. David R. Forgan; secretary, Mr. Sherman C. Kingsley; directors, Drs. William A. Evans, James Alexander Harvey, John Ritter and George W. Webster; Rev. P. J. O'Callaghan, Hon. Harry Olson, Hon. Julian W. Mack, Mr. G. R. Durgan, Mr. H. N. Foster, Mr. George W Perkins.

In the report the directors laid especial emphasis on the conditions in the various sanatoriums in or near Chicago, and pledged the organzation to continue fighting for the adoption of all recommendations made by the special tuberculosis committee. The institution will continue to carry on the systematic medical examination and supervision of the health of employees in working-places; the tuberculosis exhibits, which were visited by 112,711 persons in 97 days; the publication of the tuberculosis bulletin and the tuberculosis study circles.

LOUISIANA

State Board Proceedings.—At a meeting of the Louisiana State Board of Medical Examiners, January 14, Dr. Edmund L. Leckert was elected secretary of the board, vice Dr. Arthur Bernard Brown, deceased. The board adopted resolutions testifying to the untiring zeal and constant devotion of Dr. Brown, and expressing regret at his untimely death.

Personal.—Dr. Creighton Wellman, dean of the School of Hygiene and Tropical Medicine of the Tulane University of Louisiana, has found it impossible to continue longer the duties of his position. He has, accordingly, tendered his resignation, which has been accepted. Dr. Wellman contributed services of great value to the university through his aid and counsel in the organization of the School of Hygiene and Tropical Medicine and in many other activities. There will be no interruption in the school and his successor will be selected at an early day.——New Orleans Medical Society, at its meeting January 12, presented Dr. Charles C. Bass with a gold medal in recognition of his successful culture of the germ of malaria.——Dr. Abraham L. Metz completed twenty-five years of service as city chemist of New Orleans, January 2.——Dr. G. Farrar Patton, for ten years secretary of the State Board of Health, has been appointed state registrar of vital statistics.——Dr. Oscar Dowling, superintendent of the State Board of Health, has been appointed collaborating epidemiologist for the state.

MARYLAND

New Surgery Building.—The members of the Woman's Auxiliary of the Methodist Hospital Association, Baltimore, have started a campaign to raise $20,000 for a new surgery building for the Maryland General Hospital.

Personal.—Dr. Howard A. Kelly, Baltimore, sailed for Europe, January 25.——Drs. William H. Welch, Baltimore, and Edgar A. P. Jones, Cambridge, have been appointed members of the State Board of Health.——Dr. Robert L. Keyser, Baltimore, who was operated on for appendicitis at the Union Protestant Infirmary, January 17, is reported to be convalescent.

New Maternity.—A maternity hospital costing $50,000 has been given by Mr. Abraham Mandels, a retired merchant, as a memorial to his brothers. It is to be an adjunct to the Hebrew Hospital and Asylum. Work on the building will begin immediately and be rushed to completion. The new building will be completely furnished and provide twenty beds, every patient having a private room; not only to paying patients but to the poor as well. Dr. Harry Adler, president of the board of directors of the hospital, at whose suggestion the new hospital was given, said in announcing the gift: "The condition of the people on the East side of Baltimore is deplorable, and this is one of the things we hope the new hospital will remedy. In many cases even clean towels could not be found in homes where a child was born. Hereafter we shall be glad to take these needy cases from the tenements and bring the mother to the hospital where she and her child will be given the very best attention. The result will be that not only will the mother benefit but there will be greater assurance for a stronger and better generation in the future." The new building will be modernly equipped and complete in every detail.

Proposed Legislation.—Several bills extending the power of the State Board of Health have been introduced in the general assembly. These provide for the division of the state into sanitary districts and the appointment of deputies in charge of each district, for the more effective control of water-supplies and for the more accurate registration of vital statistics.——Dr. Eugene Jones, Kensington, state senator from Montgomery County, has introduced a bill regarding the sale of bichlorid of mercury. The bill specifies that the words "bichlorid of mercury" shall be blown into the bottle; that the tablets shall have a definite shape, and that the label on each bottle shall bear the word "poison" in prominent letters.——The Board of State Aid and Charities in Maryland has introduced a bill which will place under its control all the hospitals and charitable institutions receiving state aid. Heretofore the duties of this board have been supervisory, but under the new plan the distribution of all state funds to hospital and charitable organizations will pass through the hands of the board. ——The State Lunacy Commission has introduced a bill calling for a bond issue of $600,000 to be known as the "Third Insane Hospital Bond Issue." From the proceeds of this issue two modern psychopathic buildings will be completed, one at the Spring Grove State Hospital and the other at the Springfield State Hospital; and, in addition to these buildings, the bond issue will provide for the completion of the State Hospital on the Eastern Shore of Maryland for the Insane; the removal of all patients from the Insane Department at Bay View, the Baltimore Detention Hospital, and the permanent closure of this department.

MASSACHUSETTS

New Leprosarium.—The State Board of Charities has formulated a plan for a new leprosarium at Penikese Island, to cost about $40,000.

Personal.—Dr. and Mrs. Arthur M. Greenwood, Marblehead, sailed for Europe, January 20.——Drs. Frederick L. Lyons and Aubrey J. Collins have been appointed school physicians of Boston.——Dr. James S. Tompkins, resident physician at the Long Island Alms House and Hospital, Boston, has resigned. ——Dr. Frederick A. Bartlett, Quincy, has been appointed city physician of Quincy.——Dr. J. Frank Curtin, North Abington, has been appointed medical examiner, vice Dr. Frank G. Wheatley, North Abington, term expired.——Dr. Melvin G. Overlock, Worcester, has been appointed state health inspector for the southern central district of the state.

MICHIGAN

Sanatorium Notes.—Three tent-houses have been purchased for the Detroit Tuberculosis Sanatorium, to be used until the new twelve-room addition to the institution is completed. The new building is to cost $25,000.——The state has appropriated $20,000 for the erection of a tuberculosis sanatorium at Sanford, Midland County. The board of trustees of the State Sanatorium, Howell, has reported to the governor that it cannot purchase land and erect buildings for the amount appropriated by the city, and has asked instructions as to its action in the matter.

Personal.—At the annual meeting of the Michigan State Medical Society in Detroit, January 19, Dr. Frederick C. Warnshuis, Grand Rapids, was reelected secretary-editor, and Dr. D. Emmet Welsh, Grand Rapids, treasurer.——Dr. Charles G. Jennings, Detroit, was given a dinner, January 6, by the medical staff of Harper Hospital.——Dr. Karl B. Brucker, Lansing, has been appointed a member of the State Board of Pardons, succeeding Dr. Frank T. Roach, Newport, resigned. ——Dr. and Mrs. DeWitt C. Adams, Detroit, have sailed for Europe.

MINNESOTA

Personal.—Lieut. Reuben M. Pederson, Minneapolis, has been commissioned Major M. C., Minn., and assigned to the First Infantry.——Dr. Olaf J. Hagen, Moorhead, chairman of the State Efficiency Commission and the subcommittee on health and safety, has resigned as chairman, but will retain his membership on the committee.——Dr. Charles H. Zander, St. Paul, has succeeded the late Dr. Eugene W. McCord as a member of the medical staff of the Omaha Employees Benefit Association.

State Board Changes.—At the annual meeting of the State Board of Health held in Minneapolis, January 13, Dr. William A. Jones, Minneapolis, was reelected president and Dr. Burton J. Merrill, Stillwater, was reelected vice-president. The board approved the County Sanatorium Commission, consisting of Drs. John W. Bell, Hennepin County; Myron W. Smith, Goodhue County; Thomas Lowe, Pipestone County, and Alfred L. Vadheim, Lincoln County.——A branch laboratory is to be established by the board at Eveleth, to take care of the increasing work on the Iron Range.——Dr. Egil Boeckmann, St. Paul, has been appointed a member of the board, succeeding Dr. Robert O. Earl, St. Paul.

MISSISSIPPI

Gulfport Made Relief Station.—The United States Public Health Service has directed that Gulfport be made a relief station, and hereafter all American sailors will be given medical attention free of charge at King's Daughters Hospital.

Release from Quarantine.—The American schooner, *Carrie A. Lane*, which has been held at quarantine at Gulfport, because she had come from Brighton, Trinidad, where yellow fever is epidemic, has been released and allowed to enter Gulfport harbor.

Personal.—Dr. William W. Smithson has been appointed superintendent and Dr. R. E. Howard a trustee of the Mississippi Insane Hospital, Jackson.——Dr. Roland H. Cranford, Moselle, is reported to be seriously ill with septicemia in the Hattiesburg Hospital.

NEW YORK

Personal.—Dr. Linsley R. Williams has been appointed first deputy health officer of the state by Dr. Herman M. Biggs who took his oath of office January 21.

Farm for Convalescents.—The West Side Y. M. C. A., which has a farm of several hundred acres 4 miles from Kingston, N. Y., which has been used as a summer camp for boys, is making arrangements to open it for men discharged from city hospitals but who are still too weak to return to work.

Harvey Society Lecture.—The next lecture in the present course of Harvey Society Lectures will be given at the New York Academy of Medicine, on the evening of February 14, at 8:30 o'clock. Prof. J. J. R. Macleod of the Western Reserve University will speak on "Recent Work on the Physiological Pathology of Glycosuria."

Warship Under Quarantine.—The new battleship *Arkansas* is quarantined in the Brooklyn Navy Yard. The 1,000 officers and men are held on the vessel because of a threatened epidemic of diphtheria. Two men had the disease and fourteen others who are suffering from severe sore throats and fever were awaiting developments.

New Seaside Hospital Building.—The construction of the new Seaside Hospital at Rockaway has been begun. The Association for Improving the Condition of the Poor has $257,000 toward the project, which was raised seven years ago after a country-wide campaign. The fund has been held in trust since that time waiting for the city to accept the offer of the association to build and equip the institution provided the city would provide a site and assume ownership and conduct and maintain the hospital. The association hopes to have the institution ready for occupancy by May, 1915. The hospital will be situated on the ocean front, and when the entire plant is completed will comprise a four-story structure fronting on the ocean and eight pavilions, each 138 by 142 feet. The completed hospital will cost about $2,000,000 and will have a capacity of 1,000 beds. The association's gift to the city will include two of these pavilions and part of the main hospital structure, providing for 150 patients. The remainder of the accommodations will be at the disposal of those outside the city who have helped to establish the institution.

Mount Sinai Hospital Annual Meeting.—At the sixty-first annual meeting of the directors of this institution recently held it was announced that Dr. Arpad G. Gerster who had been visiting surgeon for thirty-four years, and Dr. Julius Rudisch who had been visiting physician for thirty-nine years, have retired from active service to become consulting surgeon and physician respectively. Dr. Gerster was presented with a silver tea service and Dr. Rudisch with a silver Greek vase. It was also announced that a plot of ground 175 by 100 feet on Fifth Avenue and Ninety-Ninth Street, just across from the hospital has been donated as a site for the additional hospital building for which a building fund of $1,000,000 has been collected. Half a million dollars is still needed to complete the required amount. The president's report shows that the receipts of the hospital for the last year were $421,384 and the expenditures were $469,892, leaving a deficit of $48,507 which it will be necessary to borrow from the permanent fund. The number of patients admitted during the year was 7,537, or 234 less than during the previous year. There were 5,326 free patients. In the dispensary there were 231,092 consultations, 5,205 less than during the previous year.

New Drug Bill.—The senate committee on Public Health has under consideration a bill to prevent the sale of all habit-forming drugs, except on prescription properly filled out by a practicing physician and by a licensed pharmacist, who shall keep a record of all such sales, the date of sale, the name and address of the physician giving the prescription, and the name and address of the person prescribed for. The bill provides that no prescription shall be filled more than once. In addition it makes it unlawful for any person to sell at retail or to furnish to any person other than a duly licensed physician, dentist or veterinarian, a hypodermic syringe without first receiving from the purchaser an official prescription blank properly filled out. The measure was drawn by Dr. Charles B. Towns of New York City. It makes provision for those who have become so addicted to the use of drugs that to deprive them offhand would be to invite an outbreak of violence, and it also provides that separate quarters shall be maintained in city and county hospitals for the treatment of those addicted to drug habits. It further authorizes local health boards to issue without charge official prescriptions to such persons as have become entitled to the regular administration of these drugs through illness.

New York City

The Crocker Research Laboratories.—It is announced that although the Crocker Research Laboratories which were founded for research work in cancer have been open but a few weeks 5,000 animals have already been inoculated with cancer. Every time a new method of cure worthy of consideration is suggested 100 animals are inoculated with the disease and placed under observation. At present experiments as to the efficacy of radium are being tried, but it is stated that no definite reports will be given out before the end of three years. One of the most important branches of work carried on at the laboratory is that of diagnosis of cases. The records of investigations are preserved and are at the service of physicians who care to use them. Courses of instruction open to physicians will be a part of the work of the laboratory staff.

NORTH CAROLINA

Tuberculous Children Excluded.—The Roann County Board of Health has adopted an order excluding children suffering with tuberculosis from the public schools of the county.

Personal.—Dr. Samuel A. Henley, Ashboro, suffered a loss of $3,000 by fire at his residence, January 21.——Dr. Richard W. Wooten, Kinston, is reported to be seriously ill at his home.——Dr. Samuel P. Burt, Louisburg, who was seriously injured in a runaway accident recently, is reported to be convalescing.

Hospital Report.—The annual report of the James Walker Memorial Hospital, Wilmington, shows that during the past year 1,384 patients were treated, of whom 816 were white and 568 colored. Of the charity patients 185 were white and 470 colored. The expenses of the institution were $40,209.41 and the income was $38,058.37.

NORTH DAKOTA

New Officers.—Sheyenne Valley District Medical Association, at Valley City, January 22: president, Dr. William B. Wanner, Wimbledon; secretary, Dr. Samuel A. Zimmerman, Valley City.

Small-Pox at State Hospital.—For the fifth time since the establishment of the State Hospital at Jamestown, small-pox has appeared in that institution. Twelve cases have appeared, but prompt action of the officers, has resulted in the checking of any further spread of the disease.

OHIO

State Board Withdraws Recognition.—Official information says that at its recent meeting the State Medical Board of Ohio withdrew recognition from the Toledo University Medical Department.

Personal.—Dr. Otto P. Geier, superintendent of Charity and Corrections of Cincinnati, has resigned and will take a long course of study abroad.——Dr. Charles S. Rockhill, Superintendent of the Cincinnati Municipal Tuberculosis Sanatorium, has resigned.——Dr. Emanuel Schwab, Cincinnati, is said to be seriously ill with heart disease, at his home in Walnut Hills.

City Hospital Superintendent.—The results of the Civil Service examination for the City Hospital superintendency were announced Monday, February 2, as follows: Dr. Charles F. Sanborn, Chicago, 80.65 per cent.; Dr. William H. Pritchard, Gallipolis, Ohio, 72.35 per cent.; Dr. Arthur C. Bachmeyer, Acting Superintendent, Cincinnati Hospital, 71 per cent. From these figures, it is reasonably certain that Dr. Sanborn will be the new superintendent of the Cincinnati Hospital. There is a current rumor to the effect that Dr. Bachmeyer will be appointed to fill Dr. Charles S. Rockhill's place as superintendent of the Tuberculosis Hospital.

Saturday Evening Lectures.—The following program of Saturday evening lectures has been arranged to be held at the Experimental Research Laboratory, Broadway, Cincinnati:

January 31, Dr. James M. Ball, St. Louis, "Great Artists and Famous Anatomists." February 7, Dr. Charles S. Rockhill, Cincinnati, "Experiments on Animals Pertaining to Tuberculosis and Hydrophobia." February 14, Dr. C. A. Zwick, "Chemical Experiments on Animals." February 21, Dr. Archibald H. Barkley, Lexington, Ky., "Experiments on Fractures in Aniraals." February 28, Dr. John W. Vaughan, St. Louis, Mo., "The Production of Anti-Cancer Globulins in Animals." March 7, Dr. Simon P. Kramer, Cincinnati, "Experiments and Their Influence on Brain Surgery." March 14, Dr. John H. Landis, Cincinnati, "Experiments on Animals and Their Influence on Mortality." March 21, Dr. James W. Miller, Cincinnati, "Experiments on Animals in the Production of Diphtheria Antitoxin." March 28, Dr. Luther L. Hill, Montgomery, Ala., "Experiments on Animals in the Development of Heart and Lung Surgery." April 4, Dr. Otto Juettner, Cincinnati. "Experimental Electro-Therapeutics." April 11, Dr. Howard Ayres, "Vivisection and Its Purposes." April 18, Dr. Victor D. Lespinasse, Chicago, "Experiments on Blood-Vessels of Animals and Transfusion of Blood." April 25, Dr. Burrill M. Ricketts, Cincinnati, "Experiments on Animals' Intestines."

PENNSYLVANIA

Personal.—Physicians of Honesdale met at the home of Dr. Robert W. Brady, January 23, and celebrated the fiftieth anniversary of the graduation of Dr. Brady from Albany Medical College.

State Hospital Overcrowded.—On January 29, inspection was made of the State Hospital for the Insane at Norristown, by the officers of the Public Charity Association of Pennsylvania, and it was found that there were too many inmates for the doctors and nurses to have complete oversight of their charges. There are 2,952 patients of whom 1,443 are men and 1,509 women. To accommodate this large number it is necessary to crowd the dormitories and wards.

Facts About Cancer.—A joint meeting of the Twentieth Century Club, Pittsburgh Academy of Medicine, and American Society for the Control of Cancer, was held in Pittsburgh, February 3, at which Dr. James W. Macfarlane presided, and addresses were delivered by Mr. Frederick L. Hoffman, New York; Dr. Edward Reynolds, Boston; Mr. E. A. Woods, Rev. J. Leonard Levy, D.D., Rt. Rev. Bishop Regis Canevin, Mr. John A. Brashear, LL.D., and Rev. Maitland Alexander, D.D.

New Officers.—Medical Society of Northampton County at Easton, January 16: president, Dr. Noah W. Reichard, Bangor; recording secretary, Dr. W. Gilbert Tilman, Easton; corresponding secretary, Dr. Frederick E. Ward, Easton.——Lebanon County Medical Society at Lebanon: president, Dr. John Walter; secretary, Dr. Charles M. Strickler, both of Lebanon.——Perry County Medical Society at Newport, January 14: president, Dr. William T. Morrow, Loysville; secretary, Dr. A. Russel Johnston, New Bloomfield.——Lehigh County Medical Society, eighteenth annual meeting, at Allentown, January 13: president, Dr. William J. Hertz, Palmerton; secretary, Dr. Jacob T. Butz, Allentown.——Cumberland County Medical Society at Carlisle, January 13: president, Dr. William S. Ruch; secretary, Dr. Edward R. Plank, both of Carlisle.——McKean County Medical Association at Kane, January 14: president, Dr. Samuel H. Haines; secretary-treasurer, Dr. James Johnston, both of Bradford.——Indiana County Medical Society at Indiana, January 13: president, Dr. William B. Ansley, Saltsburg; secretary, Dr. William A. Simpson, Indiana.——Bradford County Medical Society at Sayre, January 13: president, Dr. Donald Guthrie, Sayre; secretary and reporter, Dr. Cyrus L. Stevens, Athens.

Philadelphia

New Officers.—Philadelphia Medico-Legal Society, January 27: president, Dr. William T. Hamilton; secretary, Dr. Charles W. Schaubel.

Portrait Presented.—A portrait of the late Thomas G. Morton was presented by Mr. Arthur V. Morton to the College of Physicians, February 4. The presentation address was made by Dr. Morris J. Lewis.

Tribute to Dr. Spitzka.—At the funeral services of the late Dr. Edward Charles Spitzka, held at his late residence, January 15, tributes were paid to his memory by Rev. Charles F. Faguani and Drs. William C. Pritchard and H. E. Brill.

Personal.—Dr. McCluney Radcliffe has been elected ophthalmic surgeon to the Presbyterian Hospital to succeed Dr. George Strawbridge, resigned.——Dr. C. Doane has been appointed permanent resident surgeon at the State Hospital, Shamokin.

Additions to Hospital.—Architects have been selected to draw plans for the additions to St. Mary's Hospital, to be erected at Frankford Avenue and Palmer Street. The additions consist of a five-story and basement wing to be built on Palmer Street, about 170 feet, with another wing along Sepviva Street, 268 feet. The buildings will be of brick, stone and terra cotta, of Renaissance style of architecture, and the construction will be fire-proof.

Outside City Doctors Plan Fight.—Twenty-one of the twenty-five "Visiting Poor" physicians of the Bureau of Charities, who were dismissed last week by Director Wilson, held a meeting January 25, and decided to fight their removal and base their fight for retention on three grounds. The first was that counsels had appropriated $27,000 for the work done by the fifty visiting poor physicians, and that the act of 1892, authorizing such work had not been amended or repealed; second, the right of Assistant Director Wilson to make the dismissals in the absence of Director Neff. The final contention was that the position of Assistant Director Wilson is in jeopardy because he is not a graduate of a medical college.

Hospitals to Have Uniform Accounting System.—A joint meeting of the Efficiency Board of the County Medical Board and the State Board of Charities, was held in the rooms of the state board in the Bulletin Building, January 30, and definite plans for increasing efficiency and reducing the cost of maintenance in city hospitals were discussed. It was decided that a uniform system of accounting, suitable for the fifty-five hospitals, would be the first improvement. Harry S. McDevitt and W. B. Hadley were chosen to investigate every hospital in this city and report at the February meeting. The members of the hospital Efficiency Board are Drs. Edward Martin, Charles B. Penrose, George S. deSchweinitz, Wilmer Krusen and John D. McClain, and Richard Waterman, secretary.

SOUTH CAROLINA

Pellagra Hospital.—A state hospital for the study and treatment of pellagra is to be established under a bill which has been favorably reported by the senate and finance committee. The bill provides for an initial appropriation of $25,000.

Eugenics Bill Killed in Senate.—The state senate, by vote of 22 to 17, on January 14, failed to approve the bill endorsed by the South Carolina Medical Association, which requires the production of medical certificates of freedom from diseases on the part of male applicants before the issue of marriage licenses.

Personal.—Dr. H. R. Black, president of the Spartanburg Hospital, is under treatment in Philadelphia for injuries to his arm received by being thrown from his buggy, January 15. ——Dr. Cyril T. Wyche, Prosperity, has been elected speaker pro tem, of the South Carolina House of Representatives.—— Dr. Thomas T. Earle has been reelected president and Dr. T. R. W. Wilson secretary of the medical staff of the Greenville City Hospital.

TEXAS

New Officers.—Central Texas District Medical Society at Waco, January 12-13: president, Dr. Selwyn P. Rice, Marlin; secretary-treasurer, Dr. Herschell F. Connally, Waco. The semi-annual meeting is to be held in Hillsboro the second Tuesday and Wednesday in July.——Galveston County Medical Society at Galveston, January 9: president, Dr. Ashley W. Fly; secretary-treasurer, Dr. Lawrence R. Harris, both of Galveston.——Bell County Medical Society at Temple, January 9: president, Dr. Edward J. Burns; secretary-treasurer, Dr. Lewis R. Talley, both of Temple.——San Antonio Academy of Medicine, organized January 5: president, Dr. Charles A. R. Campbell, San Antonio; secretary-treasurer, Dr. Robert A. Roberts.——Tom Green County Medical Society at San Angelo, December 30: president, Dr. Jesse S. Hixon; secretary-treasurer, Dr. Lester C. G. Buchanan, both of San Angelo.——Eastland County Medical Society at Cisco, December 31: president, Dr. William M. Powell; secretary-treasurer, Dr. William P. Lee, both of Cisco.——Johnson County Medical Society at Cleburne, December 29: president, Dr. G. Daniel Strickland, Cleburne; secretary, Dr. Charles L. Edgar, Fort Worth.—— Tarrant County Medical Association at Fort Worth, December 22: president, Dr. Joseph A. Gracey; secretary, Dr. Frank G. Sanders (reelected), both of Fort Worth.——Fort Worth Physicians' Club: chairman, Dr. Crittenden Joyes; secretary, Dr. Pierre F. Higgins (reelected).

GENERAL

Students of Epilepsy to Meet.—The twelfth annual meeting of the National Association for the Study of Epilepsy will be held in Baltimore, May 25.

Medical Jurisprudence Organization Incorporated.—The American Association of Medical Jurisprudence has been incorporated under the laws of the State of New York. The membership is to consist of physicians and lawyers. The first annual meeting is to be held in New York City, May 2, under the presidency of Dr. Reynold Webb Wilcox.

Fraternal Election.—At the annual convention of the Phi Delta Epsilon held in New York, recently, the following grand officers were elected: consul, Dr. Murray B. Gordon, Brooklyn; vice-consuls, Drs. Leo S. Schwartz, Brooklyn; Bernard B. H. Aarons, Philadelphia; George Pinèss, Passaic, N. J.; chancellor, Dr. Aaron Brown, New York City; scribe, Dr. Ellis Campus, New York City, and historian, Dr. Irving Gray, Brooklyn.

Porto Rico Physicians Meet.—The annual meeting of the Medical Association of Porto Rico was held in Ponce, Dec. 13-14, 1913, and the following officers were elected: president, Major Bailey K. Ashford, M.C., U.S.A.; vice-president, Dr. Pedro Malaret; secretary, Dr. Jorge del Toro; treasurer, Dr. Jacinto Aviles, and councilor, Dr. P. Gutierres, Igaravidez. The next meeting of the association will be held at Guayama.

Congress on Social Insurance.—The International Congress on Social Insurance will meet in Washington in September, 1915, on the invitation of the United States government. This congress meets biennially, and this will be the first meeting in the United States. The headquarters are in Paris, where a permanent committee carries on the work of the organization between sessions. M. Leon Bourgeois, former Prime Minister of France, is president, and M. Edouard Füster, general secretary. Secretary of State Bryan has announced the appointment of a general committee to make arrangements for the Congress, which includes the Secretary of the Treasury and the Secretary of Commerce and Labor, as well as a long list of prominent persons in the United States interested in sociologic work.

Competitive Examination for Food and Meat Inspector.—Savannah, Ga., has adopted the sensible plan of holding a competitive examination for the position of food and meat inspector for that city, instead of appointing untrained persons because of their political pull. By an ordinance providing for a chief inspector and assistants the mayor is given the power of appointment, but the appointees are to be persons who have passed successfully a competitive examination to be made and held in such manner as is directed by the health officer of the city. In order that persons trained in the duties of food and meat inspectors may be secured for the positions it has been arranged that examinations are to be held in Savannah and Augusta, Ga., Boston, Washington and Chicago, after advertisement in veterinary journals and the posting of notices in the veterinary schools of the country.

Bequests and Donations.—The following bequests and donations have recently been announced:

New England Hospital for Women and Children, Children's Hospital, Boston, and Boston Floating Hospital, each one-seventh of property inherited from his father; Boston Lying-in Hospital, Boston Floating Hospital and Children's Hospital, each one-fourth of any property inherited from his mother, by the will of John Ware Willard, Brookline, Mass.

Massachusetts Homeopathic Hospital, Boston, $50,000, Boston Home for Incurables, $25,000, by the will of Benjamin Leeds, Roxbury, Massachusetts.

Milford (Mass.) Hospital $10,000, to be known as the Bancroft-Day Fund, the income to be used for general hospital purposes, by the will of Mrs. Lura Bancroft-Day.

University of Pennsylvania Hospital, $12,000, for the purchase of radium to be used in the treatment of cancer, donation by George H. McFadden, Philadelphia, through Dr. Alfred Stengel.

Philadelphia Home for Incurables, $7,500, for maintenance of a free bed in the cancer annex.

Allentown Hospital, donation of $30,000 for the construction of an operating-room, by Dr. Charles D. Schaeffer.

Tenth Annual Conference on Public Health Legislation and Medical Education.—The tenth annual conference of the Councils on Medical Education and Medical Legislation of the American Medical Association will be held at the Congress Hotel, Chicago, Monday and Tuesday, Feb. 23 and 24, 1914, the sessions to begin at 9 a. m. On Monday will be held the Conference of the Council on Health and Public Instruction, the principal speakers on the program being Dr. William F. Snow, secretary, American Social Hygiene Association, New York City, on "Recent Efforts for Sex Education"; Dr. C. A. Harper, secretary, State Board of Health, Madison, Wis., on "Wisconsin's Experiment in Marriage Legislation"; Dr. J. W. Pettit, Ottawa, Ill., on "Public Education Through the Daily Press"; Dr. W. S. Rankin, secretary, State Board of Health, Raleigh, N. C., on "Public Education Through State and County Boards," and Dr. Frederick R. Green, secretary, Council on Health and Public Instruction, on "Sixty-Seven Years of Legislation." On Tuesday will be held the Conference on Medical Education. At this conference, besides the usual addresses by the chairman and secretary, there will be the following addresses: "Administering the Year in Physics, Chemistry, Biology and a Modern Language," by Dr. Richard H. Whitehead, Dean of the Medical Department of the University of Virginia, Charlottesville, Va. "The Danger to the Maintenance of High Standards from Excessive Formalism," by President A. Lawrence Lowell, Harvard University, Cambridge, Mass. "Hospitals and Their Relations to Medical Colleges and the Hospital Intern Year," by Dr. Christian R. Holmes, Dean Ohio-Miami Medical College, Cincinnati, Ohio. "Registration Under the Canada Medical Practice Act," by Dr. W. Powell, Registrar of the Medical Council of Canada, Ottawa, Ont. There will also be papers dealing with the subject of medical licensure in the United States by well-known speakers. Among those who have agreed to join in the discussions are: Dr. Victor C. Vaughan, president-elect of the American Medical Association, Ann Arbor, Mich.; Dr. John L. Heffron, dean of Syracuse University College of Medicine, Syracuse, N. Y.; Dr. Walter L. Bierring, president of the Iowa State Board of Medical Examiners, and others. On the day following the conference of the Council on Medical Education will be held the annual meetings of the Federation of State Medical Boards of the United States and of the Association of American Medical Colleges. There is every promise that this series of conferences will be both interesting and helpful.

The Small-Pox Situation.—Small-pox has been more prevalent throughout the United States during the present fall and winter than for a number of years. Without making any attempt to gather accurate statistics concerning the disease it is interesting to note that it has been reported during January from about 225 cities and towns, the cases ranging in number from a few cases to a hundred or more in one place. In many places the schools have been closed, and in others not only the schools, but churches and places of public amusement. Business has also been interefered with. Vaccination has been urged everywhere and has been made compulsory in many places under state or local laws and ordinances, and quarantine with its annoyance, loss of time and enormous expense in proportion to the good it accomplishes, has been enforced. Opposition, organized and otherwise, has arisen in a number of places against the efforts of the authorities to quickly stamp out the disease. The anti-vaccinationists, blind to all the evidence as to the efficacy of vaccination, may always be counted on to make as loud a noise as possible, where prompt and vigorous action is especially necessary to control the disease.

The small city of Niagara Falls, which is spoken of as an "anti-vaccination center," has had about two hundred cases, with as many as 79 houses under quarantine at one time. The opposition to the efforts of the local health officer to secure thorough vaccination and carry out other measures for the eradication of the disease led to a protest to the state authorities by the city health officer of the neighboring city of Buffalo. An expert was sent to Niagara Falls by the state board to cooperate with the local authorities.

Toledo, Ohio, also had a large number of cases during December and January. An order by the local health board that the schools be kept closed early in January and that all teachers and children must be vaccinated or show a certificate as to a successful vaccination before entering the reopened schools on January 5, was ignored by the schoolboard and the schools were reopened, but later closed again. The spread of the disease, however, led to another order by the health board January 15 which made vaccination compulsory not only in the schools but in business and industrial establishments, under penalty of quarantine and a demand on the city councils for an appropriation of $25,000 to fight the disease. The surrounding cities of Ohio and Michigan addressed inquiries to the authorities of Toledo as to what was being done to fight the disease effectively, and intimated that quarantine might be declared against the city. Notwithstanding all this the antivaccinationists under the celebrated name of the League for Medical Freedom organized to oppose the efforts to get rid of the disease, and even went so far as to file charges and demand the removal of the city health officer for attempting under the laws of Ohio and according to established scientific methods to protect the people of Toledo against this loathsome disease. The correct methods prevailed, of course, and the disease will soon be under control.

In San Diego similar opposition and conflict of authority between the health department and the school board created a regrettable situation for a time.

In Iowa the ignorance or carelessness of some physicians in diagnosing cases as chicken-pox which afterward turned out to be small-pox, with consequent spread of the more serious disease, led to an order by the state board that all cases of "chicken-pox" as well as small-pox be quarantined. This aroused a good deal of opposition, but is believed to have been justified by the state board. In many places an attitude is assumed by the people and the authorities, and sometimes, though not frequently, by the health officer, which results in imperfect protection or the continuation and increase of cases. It is illustrated by the recent action in Keokuk when there were reported to be twenty cases of small-pox in the city. The city health board reported the situation as serious and demanded vaccination, but after a conference with the school and city authorities it was reported as "the consensus of opinion that compulsory vaccination was not imperative at this time. Should

conditions change and grow worse it will be ordered." The mayor and the commissioner of public safety, it is said, did not consider the situation serious, though the health officer and the president of the school board, also a physician, believed it to be serious.

Small-pox when present is always serious, and the plan of waiting until an epidemic difficult to handle has arrived before adopting preventive measures is an absurdity that is perpetrated in numerous places. Vaccinate first and then the disease will not appear. Immunity gained by having the disease is a highly disagreeable and expensive, not to say dangerous method, but the wide-spread presence of the disease this winter proves that this is the method by which many communities are acquiring it.

FOREIGN

Profit from State Monopoly of Quinin in Italy.—It is stated that the net profits for the fiscal year 1911-1912 were 919,723 lire, an increase of 76,000 lire over the year before. This net profit of nearly $200,000 has been added to the fund for combating the causes of malaria.

Carnegie Hero Medal Awarded to Physician in Italy.—One of the Carnegie hero medals and $200 were presented recently to Dr. P. Foianini of Grosio on account of his having sucked a diphtheric membrane from the throat of a woman on whom he was doing a tracheotomy and who was on the point of suffocating. The woman was saved, but the physician developed the disease himself in a severe form.

Annual Meeting of the German Surgical Association.—Professor Müller of Rostock is to preside at the Forty-Third Annual Meeting of the German Gesellschaft für Chirurgie, which is to be held at Berlin, April 15 to 18. The subjects appointed for discussion are the "Ultimate Outcome of Transplantation of Thyroid Tissue," to be introduced by Kocher of Bern; "Postoperative Abdominal Hernia," by Sprengel of Brunswick, and "Bladder Tumors," by Hildebrand and Joseph of Berlin.

Prize for Work on Microbiology.—It is announced from Copenhagen that the E. C. Hansen prize is to be awarded this year for the first time. The date is May 8, and the prize consists of a gold medal and a sum of at least 2,000 crowns. It is to be given to the author of some prominent work on microbiology which has been published in Denmark or elsewhere in the course of recent years, dealing with the morphology and mode of action of microbes pathogenic for man and beast. Besides the four Danish members of the committee of award, it includes Profs. Theobald Smith of Boston, Gaffky of Berlin and Calmette of Lille. For further details address the chairman of the committee, Prof. S. P. L. Sørensen, Carlsberg-Laboratoriet, Copenhagen, Denmark.

CANADA

Good Work in Diphtheria.—In the past two years the Toronto Isolation Hospital has invested in diphtheria antitoxin $9,000, or more than in similar periods in former years. The result has been the saving of fifty lives.

Reorganization of Medical Department.—The western medical system of the Canadian Pacific Railway is being completely reorganized. The operation of the medical services will be in the hands of an executive committee who will appoint all the medical men and draw up regulations governing the service.

Communicable Diseases.—All the public schools in Ingersoll, Ont., have been closed owing to an epidemic of diphtheria. ——A rigid quarantine against small-pox in Niagara Falls, N. Y., has been established in Niagara Falls, Ont. The director-general of Public Health, Ottawa, has appointed Drs. Horace R. Elliott and Frank W. E. Wilson quarantine officers to regulate the passenger traffic over the border. All persons entering Canada who cannot show certificates or proofs of vaccination within seven years will be rejected.

Hospital News.—The Toronto General Hospital funds have passed the $3,500,000 mark, and the entire amount has been raised with the exception of $85,000. The total number of inmates is 1,080.——Calgary, Alta., is planning to build a $30,000 tuberculosis hospital.——The Board of Trade, Perdue, Sask., recommends that a hospital be established in that town. ——The Tranquille (B. C.) Sanatorium for Tuberculosis has to face a deficit of $15,000 for its operations for 1913. With the addition of the proposed new buildings to cost $100,000, on the same basis of administration, the deficit would amount to double that amount in 1914. Detailed statements showing the necessity for additional governmental assistance have been placed before the British Columbia Government, who are being asked to make an increased grant for maintenance and to provide the funds for the erection of the new building.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 24, 1914.

A New View on Vaccination

Dr. C. K. Millard, health officer of Leicester, delivered the first of the three "Chadwick Public Lectures" on "The Vaccination Question in the Light of Modern Experience." The lecture was remarkable in that an entirely new position intermediate between that of the antivaccinationists and the orthodox view was adopted by an authority on public health. In this country professional opinion has always been almost unanimously in favor of vaccination, but there has been a sprinkling of eminent physicians such as Dr. Creighton and Sir William Collins, M.D., F.R.C.S., K.C.V.O., opposed to it. The latter, who presided at this lecture, is chairman of the Chadwick trustees, and the fact that he was a very active member of the royal commission on vaccination and largely responsible for the minority report of the commission, while the lecturer is the chief public health official for the town of Leicester—so long regarded as the Mecca of the antivaccinationists—gave the lecture a special interest.

Dr. Millard explained his personal position in regard to vaccination. When he first went to Leicester his views on the subject were strictly orthodox, but in consequence of his experience with small-pox in Leicester and of the close study of the question he has been obliged to modify those views considerably. He is a thorough believer in the power of vaccination to protect the individual temporarily. On the other hand, he has become skeptical as to the value of vaccination to the community at the present day. He attributed the bitterness felt by the opponents of vaccination to the compulsory clauses of the vaccination acts and the tyranny with which these had often been enforced. There was also the repulsion which many persons undoubtedly felt to the introduction of a disease into a healthy child for the sake of preventing another disease, the risk of contracting which he considered problematic. It would ultimately be discovered that the whole truth about vaccination would not be found on either one side or the other, but that both sides were partly right and partly wrong. The question of vaccination was not nearly so simple as many people appeared to think.

His own views are as follows:

1. I believe absolutely in vaccination, though with certain important reservations, and I differ *in toto* from the anti-vaccinationist when he asserts that vaccination is a "myth" and a "delusion." I agree entirely with the provaccinationist that recent vaccination confers on the individual protection against small-pox which for practical purposes is complete, though unfortunately only temporary.

2. Vaccination, repeated as often as necessary, is invaluable for protecting those who for any reason are specially exposed to the infection of small-pox, as doctors and nurses.

3. It is also of very great value for protecting persons after actual exposure to infection, as small-pox contacts.

4. Vaccination has a remarkable power of modifying and mitigating small-pox for many years after its power to protect against attack has worn out. Moreover, the protection conferred by vaccination can be renewed by revaccination.

5. On the other hand, I agree with the antivaccinationist in doubting the value to the community, at the present day, of infantile vaccination. An exaggerated view has been taken as to the effect of such vaccination in preventing the spread of small-pox, which is the real problem before us.

6. I agree with the antivaccinationist that sanitation, notification, isolation, surveillance of contacts, and other modern measures which are becoming generally adopted have played a more important part in the abolition of small-pox from this country during the past thirty or forty years than infantile vaccination.

7. I think the antivaccinationist is right when he contends that the drawbacks to infantile vaccination, and the injuries to health caused by it, are not sufficiently recognized by the medical profession, who, in their sincere anxiety to defend vaccination, have been inclined to minimize these drawbacks.

8. On the other hand, the antivaccinationist, in his hostility to vaccination, has grossly exaggerated these drawbacks, while endeavoring to prejudice the question of vaccination by making wild assertions about the nature and origin of vaccine lymph, etc.

9. There is distinct evidence that small-pox is leaving this country in spite of the increasing neglect of vaccination, and it seems probable that such neglect of vaccination will continue to increase until the great majority of the population has become unvaccinated. I am inclined to believe that when this happens the problem of small-pox prevention will very possibly be simplified and made more easy rather than more difficult.

10. The great difficulty in controlling the spread of small-pox at the present day is the occurrence of very mild unrecognized cases which spread infection broadcast before precautions can be taken. They occur almost entirely among vaccinated persons and *because they were so vaccinated*. In other words, infantile vaccination, by its very success in mitigating small-pox after its power to protect from attack has worn out, may have a distinct tendency to encourage the spread of the disease. It is possible that this tendency more than neutralizes any benefit which the community derives from the fact that vaccination largely protects the child population from small-pox.

Dr. Millard considered that the antivaccinationists made a great mistake in contesting the protective influence of vaccina-

tion on the individual, as this had been abundantly proved beyond all doubt. The real question now was: What is the protective influence of vaccination on the community? He showed a number of diagrams illustrating the fall in small-pox mortality and proving that this was specially marked since the "era of sanitation," during which such measures as notification and isolation had come into operation. Diagrams showing that although the proportion of infants vaccinated had been declining the small-pox mortality had been undergoing the same change were also produced. He considered that the universal vaccination of the community was therefore much less important than had been supposed.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 17, 1914.

The Struggle with the Krankenkassen

No important progress has been made in the negotiations for an agreement with the Krankenkassen during the past week. To be sure, the Stettin Krankenkassen, after long negotiations, expressed themselves as ready to carry out the conditions agreed on, but in Breslau the insurance societies are objecting to compliance with the chief demand, that is, the dismissal of the emergency men already appointed, the so-called "strike-breakers." Compliance with this demand, however, is regarded by the Leipsic League as a prerequisite to the final settlement of the difficulties. As a result, the confidential advisers of the Leipsic League met again in Leipsic on the 11th and passed the following resolutions:

After the German medical profession promptly and without reserve ratified the agreement of December 23, the advisers and authorities of the Leipsic League, assembled at Leipsic, Jan. 11, 1914, learned with great surprise that the termination of the conflict has not yet been secured in several places, for instance, Brunswick, Breslau and Elving, by the immediate discharge of the medical emergency men, according to the eleventh section of the agreement. They regard the performance of the conditions of this section as an unconditional prerequisite for the fulfilment of the agreement, and are of the opinion that if these conditions are not promptly complied with, the validity of all the contracts that have so far been made on the basis of the agreement will be placed in doubt, and an important reason for their immediate abrogation will be afforded. The advisory board would most deeply regret that the physicians should be compelled to renew the struggle for this reason.

I have no doubt that the few rebellious insurance authorities will yield, for the government has finally recognized the true significance of and justification for the demands of the medical profession, and will spare no pains to break the opposition of the insurance societies.

Increase in the Excess of Births in Prussia

The latest statistics show that there is a slight increase in the excess of births over deaths in Prussia. The figures indicate, however, that calculated per thousand inhabitants the reduction in the birth-rate has not yet ceased. The diminution in the number of marriages is also notable. In the cities this reduction is evidently connected with the unfavorable economic conditions.

The Charlottenburg Housing Office

On account of the great importance of housing conditions for public health and social conditions, a number of large cities have of late devoted great attention to the organization of supervision of dwellings and have created institutions for the purpose of carrying out such control of the housing conditions. Thus, housing bureaus have been established in Berlin as well as in Charlottenburg. A member of the Charlottenburg administration has lately reported his experience in the work of the Charlottenburg Housing Bureau during the first two years of its existence. This report will attract general interest. The theoretical foundation for the work of this bureau is first a housing survey, which determines how the poorer classes of the population live, especially how the lodging-houses and the accommodations for servants are constructed, as this style of living is the source of harm in regard to culture, morals and health. By systematic determination of these evils a housing reform will be prepared for. The removal of the present defects is a second theoretical basis for the Housing Bureau, which included the care of dwellings, and is an interference with the private rights of individuals, which demands therefore strict rules that will prevent any arbitrary proceedings. It is not through police regulations but by the establishment of minimum requirements as to the condition of the house, the separation of the sexes and the relation of landlord and renter that this aim ought to be reached. A cooperation of regular officers and voluntary helpers and the employment of women have been of great service in the Charlottenburg organization. There are three house inspectors who have had a technical education and one full-time visitor who has had an education in sociology and is employed in caring for the social conditions. The inspectors examine the dwelling and indicate on the house cards the way in which the defects which are found should be remedied. When extensive changes are requisite, their institution is determined by the housing committee, of which there are fourteen, each consisting of four persons, one a city physician (poor physician). Superior to these committees is the deputation for housing affairs, which decides questions involving general principles and promotes such positive measures as the assistance of popular building-societies, the erection of homes for single people, etc. To this deputation a large number of expert citizens, including three women, belong. Each citizen delegate is also a member of a housing committee. Those matters which cannot be settled here are referred to the police as the last resort. The assistance of the police is immediately requisite only for the control of the lodging-houses. Connected with the housing bureau is a register of dwellings where all dwellings must be registered. This registration is free. In the first two years of the work of the housing bureau 557 houses were inspected, in which 1,171 defects were found and were charged to the owner. In 5,400 flats (only apartments of two rooms and a kitchen were inspected, of which there are 40,000) there were found 2,400 defects which were caused by the renter. The defects consisted especially of failure to separate the sexes, unauthorized introduction of lodgers and a lack of beds. A seventh of all the water-closets served for more than two families; 209 corridors and dark chambers were used as sleeping-rooms; 140 apartments were completely, and 1,702 partly overcrowded, if the standard of 4 square yards (4 square meters) of floor-area for each person is adopted. Of 2,000 such defects only 259 have not yet been remedied in the second year. Of 89 cases of overcrowding the first year, there were only 14 not remedied by the end of the second year. Thirty-seven cases were settled by transfer to other apartments with the help of the apartment register. Ten flats were voluntarily closed on account of insanitary conditions, and 57 water-closets were constructed without help of the police. There were 866 bedrooms used by lodgers in common with members of the family, and in 1,389 cases the use of the kitchen by lodgers was permitted.

Marriages

FREDERICK D. CARTWRIGHT, M.D., Bowling Green, Ky., to Miss Mayme Mitchell of Glasgow, Ky., at Louisville, January 15.

ARTHUR MOSES GREENWOOD, M.D., Marblehead, Mass., to Mrs. Josephine Lyons Pemberton of New York City, January 17.

CHAUNCEY WALTER STRAUSS, M.D., Copperhill, Tenn., to Miss Dorothy G. Beyland of Newport, Ky., Nov. 27, 1913.

HARRY LESLIE LANGNECKER, M.D., to Miss Josephine Roome Macdonald, both of Cambridge, Mass., January 28.

DEWITT CARTER ADAMS, M.D., Detroit, to Miss Helen Brownlee Brooks of St. Louis, at Detroit, January 21.

THOMAS GROVER ORR, M.D., North Bennington, Vt., to Miss Helen Harris of Syracuse, N. Y., Dec. 22, 1913.

JOHN LEE RILEY, M.D., Henryetta, Okla., to Miss Frances Lamping of Little Rock, Ark., Dec. 11, 1913.

CLARENCE ARTHUR READ, M.D., to Miss Elizabeth Bosworth, both of New Rochelle, N. Y., January 15.

CHARLES MCCLURE, M.D., Cox's Creek, Ky., to Miss Mary Ellen Lisco of Bardstown, Ky., January 29.

NINA LEOLA ALLEN, M.D., San Diego, Cal., and William E. Gird of Bonsall, Cal., January 14.

FRANK HOMER KENNEDY, M.D., to Miss Nellie Youngs, both of Greenwood, Wis., January 14.

FREDERICK JAMES PORT, M.D., to Miss Gretchen Blaser, both of Milbank, S. Dak., January 28.

WILLIAM C. WESSEL, M.D., to Miss Anna Roethemeier, both of Hermann, Mo., January 18.

MARK HORNSTEIN, M.D., to Miss Henrietta Offerman, both of New York City, Dec. 21, 1913.

WILLIAM BARTON SKELTON, M.D., to Miss Edna Dunstan of Dollar Bay, Mich., January 6.

CLEVELAND H. SHUTT, M.D., to Miss Alice Bock, both of St. Louis, January 22.

Deaths

Brigadier-General Alfred C. Girard, U. S. Army, retired; died at his home in Washington, D. C., January 31, after an operation for appendicitis, aged 72. He was born in Switzerland, July 31, 1841, was graduated from the University of Wurzburg, Germany, in 1864, and entered the United States Army as acting assistant surgeon, Jan. 19, 1865. In 1867 he was made assistant surgeon U. S. Army, and after passing through the various grades was retired as brigadier general at his own request, April 7, 1905. During his service he passed through several Indian campaigns and acted as chief surgeon of the Second Army Corps during the Spanish-American War. After his retirement he resided in Chicago, and was librarian of the medical department of the John Crerar Library until 1911, when he moved to Washington. General Girard was a Fellow of the American Medical Association and a member of the Association of Military Surgeons of the United States, and was at one time Medical Director of the Department of Idaho of the Grand Army of the Republic.

Andrew Flint Sheldon, M.D. New York University, New York City, 1852; assistant surgeon of the Seventh New York Volunteer Cavalry, and Seventy-Eighth New York Volunteer Infantry; later executive officer in the medical director's office, Washington; commissioned major and surgeon of United States Volunteers, and placed in charge of the Campbell United States General Hospital, Washington, and brevetted lieutenant colonel for meritorious services during the Civil War; treasurer of Wayne County, N. Y., for three years; died at his home in Lyons, January 24, aged 83.

Gustave R. Feil, M.D. University of Wooster, Cleveland, Ohio, 1891; a member of the Colorado State Medical Society; visiting physician to the National Jewish Hospital for Consumptives and Mercy Hospital, Denver; died at his home in Denver, January 16, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health, aged 42.

Stephen L. Powlett, M.D. (license, Louisiana) a practitioner for forty-three years; ambassador from the United States to Guatemala during Cleveland's administration; later a practitioner of New Orleans and Hammond, La., and mayor of the latter city; at one time colonel on the staff of Governor Sanders and surgeon general of the National Guard of Louisiana; died at his home in Hammond, January 7.

George C. Losey, M.D. Northwestern Medical College, St. Joseph, Mo., 1888; a member of the Missouri State Medical Association, and a practitioner of Almon; died Dec. 2, 1913, from the effects of an accident which occurred while he was returning from a meeting of the Hickory County Medical Society.

A. Carl F. Reinhard, M.D. University of Marburg, Germany, 1870; a Fellow of the American Medical Association; surgeon in the Prussian service during the Franco-German war, and for a time a surgeon on transatlantic steamers; a practitioner of Milwaukee since 1876; died at his home January 12, aged 66.

Alonzo F. Huntoon, M.D. Missouri Medical College, St. Louis, 1881; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of California; died at his home in Los Angeles, January 13.

Philip Benton Spears, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1891; a member of the Medical Association of the State of Alabama; died at his home in Florala, January 12, from heart disease, aged 61.

James J. Richardson, M.D. University of Louisville, Ky., 1866; a Confederate veteran; for many years head physician of the Cumberland Sanatorium, Lebanon, Tenn.; died in that place, January 8, from bronchial asthma, aged 73.

Curtis William Otwell, M.D. Columbus (Ohio) Medical College, 1876; a veteran of the Civil War, in which he served as an assistant surgeon; died at his home in Independence, Kan., January 8, from senile debility, aged 76.

Joseph Bailey Thomas, M.D. University of Iowa, Iowa City, 1883; for thirty years a practitioner of Carthage, Mo.; died in the Touro Infirmary, New Orleans, January 7, three days after an operation for gastric ulcer, aged 54.

John V. Webster, M.D. Cincinnati College of Medicine and Surgery, 1870; of Flushing, Ohio; died in the Columbus State Hospital, January 6, from tuberculosis, aged 66.

James Roy McIntire, M.D. Southwestern Homeopathic Medical College, Louisville, 1902; died at his home in Carlisle, Ky., January 9, aged 32.

Edward Warren King, M.D. Cooper Medical College, San Francisco, 1863; from 1892 to 1912, superintendent of the Talmage (Cal.) State Hospital; died at his home in San Francisco, January 11, aged 82.

Joseph W. Newcomer, M.D. Jefferson Medical College, 1864; a member of the Illinois State Medical Society; for forty-eight years a practitioner of Petersburg; died at his home in that city, January 14, aged 75.

John Washington Farill, (license, Cherokee County, Ala., 1887) a member of the Medical Association of the State of Alabama, died at his home in Farill, Dec. 15, 1913, from senile debility, aged 83.

Robert C. Young, M.D. McGill University, Montreal, 1873; from 1874 to 1911 a practitioner of Ridgetown, Ont., and since that time a resident of Detroit; died at his home Nov. 25, 1913, aged 63.

James A. Sexton, M.D. University of Maryland, Baltimore, 1873; a Confederate veteran and later register of deeds of Harnett County, N. C.; died at his home in Harnett, January 7, aged 69.

John S. Whatley, M.D. Tulane University, New Orleans, 1880; a director of the First State Bank of Chillicothe, Tex.; died at his home in Chillicothe, January 12, from pneumonia, aged 59.

Charles Orendorff, M.D. University of Pennsylvania, Philadelphia, 1862; for fifteen years a resident of Colony, Kan.; died at his home in Yates City, Kan., Dec. 26, 1913, aged 81.

Alfred Huntington Ketchum, M.D. University of Alabama, Mobile, 1871; since 1873 a practitioner of Texas; died at his home in Navasota, December 24, aged 66.

Mary J. McCleery, M.D. Woman's Medical College of New York Infirmary, 1877; died at her home in New York City, January 12, from heart disease, aged 70.

Thomas Osgood Reynolds, M.D. Albany (N. Y.) Medical College, 1866; a veteran of the Civil War; died at his home in Kingston, N. H., Dec. 12, 1913, aged 71.

August Wilhelm (license, California, 1876); a practitioner for fifty-three years; died at his home in San Francisco, January 6, from arteriosclerosis, aged 80.

Isaac B. Loos, M.D. Jefferson Medical College, 1888; a Fellow of the American Medical Association; died at his home in Trenton, N. J., January 13, aged 50.

Ansel Strickland, M.D. Atlanta (Ga.) Medical College, 1880; a practitioner of Cumming, Ga., for more than thirty years; died at his home January 7, aged 55.

Joseph B. Rush, M.D. University of Mobile, 1873; a Fellow of the American Medical Association; died at his home in Orlando, Fla., Nov. 18, 1913, aged 67.

William C. Meredith, M.D. University of Iowa, College of Homeopathic Medicine, Iowa City, 1884; of Nooksack, Wash.; died in Seattle, Wash., Oct. 14, 1913.

Joseph W. Coyner, M.D. Pulte Medical College, Cincinnati, 1878; of La Jolla, Cal.; died in San Diego, Cal., January 8, from strangulated hernia, aged 62.

John Caven, M.D. Victoria College, Coburg, Ont., 1886; L. R. C. P. Lond. 1886; died at his home in Toronto, December 10, from nephritis, aged 52.

David Hassan Sleem, M.D. New York University, New York City, 1889; died at his home in Valdez, Alaska, Oct. 11, 1913, from heart disease, aged 50.

Robert W. Billups, M.D. Flint Medical College, New Orleans, 1903, a colored practitioner of Harwood, Ark., was killed at Lake Village, Ark., recently.

Lewis V. Melton, M.D. Hospital Medical College, Eclectic, Atlanta, Ga., 1909; died at the home of his father in Chesterfield, S. C., January 4.

William John E. Rush, M.D. Medico-Chirurgical College of Philadelphia, 1896; died at his home in Allentown, Pa., about January 8, aged 40.

J. Morring Beeson, M.D. University of Alabama, Mobile, 1897, of Wauchula, Fla., died in a sanitarium, January 9, from diabetes, aged 40.

John S. Hougham, M.D. Eclectic Medical Institute, Cincinnati, 1869; died at his home near Perkinsville, Ind., January 6, aged 74.

Henry P. Howard, M.D. Columbian University, Washington, D. C., 1851; died at his home in Dallas, Tex., November 21, aged 82.

Max Dantes, M.D. Bellevue Hospital Medical College, 1893; died at his home in New York City, January 7, aged 41.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SAL HEPATICA

Report of the Council on Pharmacy and Chemistry

Sal Hepatica, marketed by the Bristol-Myers Co. of New York, has been refused recognition by the Council, because its composition is secret; because it is advertised indirectly to the public for the treatment of diseases; because exaggerated and unwarranted claims are made for its therapeutic qualities; and because the name fails to indicate its chief constituents but does suggest its use in liver disorders.

The Council has authorized the publication of the report of its referee, because it is an important illustration of the ways in which physicians are being made parties to the introduction to the public of a patent medicine, whose indiscriminate use must often have resulted in harm, direct or indirect.

W. A. PUCKNER, Secretary.

The report of the referee follows:

Sal Hepatica is a saline laxative sold by the Bristol-Myers Company of New York. No information seems to be given regarding its composition except such as is contained in the following vague and uninforming phrases:

"Effervescent saline combination, hepatic stimulant, laxative and an eliminant of irritating toxins."

"Sal Hepatica is a saline combination containing the alterative and laxative properties similar to the natural 'Bitter Waters' of Europe with the addition of sodium phosphate."

". . . more palatable and efficient than sodium phosphate alone or other salines."

A circular around the bottle contains the following:

"We invite the physicians' careful consideration of the merits of Sal Hepatica in the treatment of Rheumatism and Gout, in Constipation and Auto-intoxication, and to its highly important property of cleansing the entire alimentary tract, thereby eliminating and preventing the absorption of irritating toxins and relieving the conditions arising from indiscretion in eating and drinking."

In the same circular, its promiscuous use is invited in these terms:

"Owing to its palatability, Sal Hepatica is particularly well adapted to the requirements of childhood or the feeble and delicate."

Further suggesting its use in the treatment of that popular, if somewhat vague ailment, "biliousness," we read:

"It is especially valuable where there is intestinal sluggishness arising from functional derangements of the liver or portal circulation. . . ."

As further suggestive of its all-around "goodness," are the claims:

"It increases the appetite and promotes digestion by stimulating the flow of gastric juice."

"In rheumatism and gout Sal Hepatica furnishes the physician with an ideal eliminant, usually affording prompt relief."

The label on the Sal Hepatica bottle suggests—both to physicians and the public—its use in the following diseases and conditions:

"Derangements of the stomach and liver."
"Affections of the kidneys."
"Bilious attacks."
"'Summer complaints,' colic and alcoholic excesses."
"Headache, dizziness, heartburn and seasickness."
"Acute indigestion."
"Gastric, hepatic and renal disorders."
"Especially beneficial in rheumatism and gout."

From these quotations it is evident that Sal Hepatica is in conflict with:

Rule 1, in that its composition is not disclosed, although statements are made which are likely to give a false impression as to what it is;

Rule 4, in that the statements on the label and in the circular around the bottle advertise it to the public and thus makes the physician who recommends it an advance agent for the nostrum;

Rule 6, in that exaggerated and unwarranted claims are made for its therapeutic qualities, and,

Rule 8, in that its name fails to indicate its chief constituents, but does suggest its use in liver disorders.

The absurd claims made for this preparation are such as to put it in the "patent medicine" class. Even the most credulous members of the medical profession certainly can take no stock in the claim that a preparation can be an "eliminant" of uric acid, a hepatic stimulant, a remedy for gout, rheumatism, liver disease, indigestion, etc., why then should such a preparation be tolerated!

In its conflict with Rule 4 Sal Hepatica belongs to that class of nostrums which have been so successfully exploited by manufacturers through the unwitting efforts of thoughtless and careless physicians. The Bristol-Myers Company has been most liberal in distributing free samples, evidently with the assurance that physicians would do the rest. Thus, at the present time, the profession is being supplied with a package containing one regular 25-cent bottle and five single-dose vials bearing the name Sal Hepatica. If only a small percentage of the physicians who receive these samples distribute them, the increase in Sal Hepatica consumers may be imagined. How successful this scheme of the Bristol-Myers Company has been is only too evident. Sal Hepatica is one of the best-selling laxatives in department stores and drug stores to-day.

While the evils of indiscriminate purgation are now generally recognized, the referee wishes to quote and to indorse the pertinent comments on this subject by THE JOURNAL:[1]

"The abuse of saline cathartics by the public is an evil deserving of serious attention. Rightly or wrongly, the laity fear constipation and naturally take what they are taught to believe is the cheapest and simplest course for its relief, self-drugging by means of saline cathartics or the extensively advertised purgative mineral waters. This habit is responsible for much of the distressing spastic constipation that exists, and its accompanying neurasthenia. The advertisement and sale to the laity of such a nostrum as "Sal Hepatica" can only increase these evil results and the physician who aids and abets the evil by using the preparation should reflect whether he is thereby not only encouraging a fraud on the public but also, what is even worse, helping to impair the public health."

It is recommended that this report be authorized for publication in order that physicians may know the extent to which they have been made to act as advance agents for "patent medicines." It is hoped its publication may suggest to those who in thoughtlessness have recommended Sal Hepatica, that they go to their materia medica and renew acquaintance with the host of simple and efficient laxative salts which are available—magnesium sulphate, sodium sulphate, sodium phosphate and the palatable effervescing preparations of these which the Pharmacopeia provides—effervescent magnesium sulphate (Magnesii Sulphas Effervescens, U. S. P.), effervescent sodium phosphate (Sodii Phosphos Effervescens, U. S. P.).

LIPPINCOTT'S MAGAZINE

Its Advertising—A Protest and An Excuse

A few days ago a physician wrote to THE JOURNAL enclosing two advertisements taken from the current issue of *Lippincott's* magazine. One of these was a half-page advertisement of that outrageous fraud, the "Oxydonor"; the other was a full-page advertisement of J. B. Lippincott Company, Philadelphia, calling for salesmen "to present standard medical books to physicians only."

The physician sending in this material asked us to send to Lippincott's a pamphlet showing the fraudulence of the Oxydonor. Instead of doing so, we sent the pamphlet to the physician and suggested that he write a personal letter in

1. THE JOURNAL A. M. A., March 26, 1910, p. 1071.

the belief that individual missionary work is the most effective way of fighting fraud. Accordingly the doctor wrote to *Lippincott's* and received in reply this letter from the advertising department of that publication:

"Your letter of the 23d received, and in reply beg to say that we do not approve of fraudulent advertising, and we have never before been advised that the advertisement to which you call our attention was objectionable. *In fact, we know nothing whatever about it.* [Italics ours.—ED.] It came to us, as do most of the others, through an advertising agency, and while we do not willingly publish anything that is fraudulent or objectionable, *it is not our custom to verify the claims of advertisers,* [Italics, again, ours.—ED.] especially when the same copy is being run in almost every other high-grade publication.

"We have a very high regard for the American Medical Association, and they undoubtedly are doing a splendid work in ridding the country of fake medical preparations, but the mere fact that they condemn some one of our advertisers is hardly sufficient proof for us to refuse the advertising, because, *if the advertiser desires to do so, he can make us prove in the courts that he is a faker, or claim damages from us for refusing to publish his advertisement.* [Our italics.—ED.]. If the American Medical Association will guarantee to protect the publishers against loss from damage suits brought by advertisers whose business they refuse to accept, then, we believe that the publishers would gladly reject them, but not many of the publishers are in a position to investigate the merits of all the advertising that is offered, especially when the claims are backed up by affidavits of reputable people who believe themselves to have been cured by the preparation.

"We certainly do not wish to jeopardize our medical publications by advertising fake schemes or propositions of any kind, and we thank you for writing us concerning the matter and will now look into this particular case."

HEALTH
POWER
AND VIGOR
WITHIN YOUR
GRASP
Oxydonor
192 PAGE BOOK
Write To-day
DR. B. SANCHE & CO.
Salesmen
WANTED
to present standard medical books to physicians only. We have just issued and have now in preparation many new books that are meeting with pronounced favor. Successful books mean successful salesmen, good income, and agreeable occupation. Address, with fullest details and business references
J. B. Lippincott Company
Philadelphia
Pennsylvania

Photographic reproduction (much reduced) of two advertisements from January, 1914, *Lippincott.* One of a fraudulent quasi-medical device, the "Oxydonor"; the other, calling for salesmen to introduce "standard medical books to physicians."

This letter discloses the workings of the brain of an advertising man of the old school. The principles enunciated therein are those that dominated the advertising field until quite recently. They represent the *laissez faire* doctrine as applied to advertising. At that time the only unacceptable advertising copy was that which would debar the publication using it, from the United States mails. This was the yardstick by which all advertising was measured—at that time.

The economic conscience has since awakened. There are few reputable magazines to-day, we venture to believe, that would be willing to go on record to the effect that it is not their "custom to verify the claims of advertisers." The modern, progressive advertising man recognizes not only the responsibilities his profession imposes, but also realizes that, from the narrower view of enlightened self-interest, the greatest menace to the future of modern advertising is the fraudulent advertisement.

The claims on the part of the advertising department of *Lippincott's* that it dares not refuse to accept fraudulent advertisements because the advertiser might bring suit against it for refusing to accept his advertisement, is a statement whose falsity is exceeded only by its silliness. Equally preposterous is the statement that *Lippincott's* will willingly refuse to accept fraudulent advertisements provided the American Medical Association will guarantee to protect the Lippincott Company against loss from damage suits that may be brought by the exploiters of the frauds whose advertisements are refused.

It may be news to *Lippincott's* to learn that there are a score and more of newspapers and magazines that are accepting the findings of the American Medical Association on medical frauds and rejecting advertisements of such frauds. There are many newspapers that send us the medical advertising "copy" submitted to them and ask for an opinion on it. When that opinion is unfavorable, these papers refuse such advertisements. This is being done daily. We have yet to hear of any "patent medicine" faker or quack even threatening to bring suit because his advertisements have been rejected.

The advertising department of *Lippincott's* may therefore take heart. When an advertisement of an outrageous fake like the Oxydonor is submitted to it, instead of accepting the money for it, meantime muttering an inaudible protest at the unfortunate position in which it has been placed, it may look the fraud in the eye and say Boo! The faker will not bite.

Before leaving the subject, we are constrained to refer to Lippincott's medical publication, the *Annals of Surgery.* We begin to realize now why that journal offers a welcome haven to such products as Sal Hepatica, Bromidia, Papine, Gray's Glycerin Tonic, Fellow's Syrup of Hypophosphites, et al. Presumably the same "custom" obtains in the acceptance of advertising for the *Annals of Surgery* as for *Lippincott's*, namely that the Lippincott Company does "not verify the claims of advertisers." Possibly the *Annals of Surgery* is afraid that, should it reject the Sal Hepatica advertisement, for instance, it might be haled into court! Let us trust, for their peace of mind, that the publishers of the *Annals of Surgery* do not receive an advertisement from Old Doc Hartman for a full page display of Peruna. The mental anguish they would undergo in reluctantly accepting this advertisement—under the fear that Hartman would "claim damages" if it were rejected—is painful to contemplate.

ORRIN ROBERTSON

A Quack and His Seven Sacred Oils

The following interesting letter is from a lady living in one of the southwestern states:

"Under separate cover I am sending you a copy of a preposterous circular sent out by one Orrin Robertson of Arkansas City, Kan. This paper was given to me by a lady who is connected with me by marriage and who has a cancer in what must be both an inoperative and incurable stage. Instead of going, as I begged her to, to one of the surgeons of M———— when there was only a small lump in her breast, she went first to Johnson of Kansas City, Mo., then to Weltmer of Nevada and now she is planning to go to Robertson.

"It takes her hours every day to wash and cleanse the breast. It bleeds very freely, and has a raw open surface several inches in diameter.

"How any one can take any stock in a man who can publish such a thing is unaccountable to me.

"My doctor advised me to send the publication to you to have Robertson exposed in THE JOURNAL, as you are doing with other charlatans and frauds. You may say that he is not worth noticing, but he reaches a great many people who ought to know better, and his bitter denunciation of regular

practitioners and his 'proofs' of the awful things they give as medicines ('glanderine' for instance) are enough to shake the confidence of a very large class of people in the medical profession.

"I have no hope of doing any good in the case I write of. But an exposé in THE JOURNAL might help reputable physicians to keep others from taking the chances of going to him."

The preposterous circular that our correspondent forwards is a twenty-eight page advertising sheet called *Robertson's Journal of Anthropology*. Robertson calls himself "the Old Reliable Specialist, Discoverer, Originator and Founder of Anthropology, the Pneumo-Psycho-Manas-Soma System." He has been quacking it for many years. He was graduated in 1895 by the homeopathic department of the State University of Iowa, but five years before this he seems to have been at San Antonio, Tex. His name does not appear again in the medical directories until 1900, at which time he is found at Louisburg, Kan. From 1902 to 1908 he was at Quenemo, Kan., where he operated a fake institution known as the "American University of Anthropology." In 1910 he is found at Kansas City, Mo. In 1911 he seems to have been at Agra, Okla. At present writing he is at Arkansas City, Kan.

Robertson claims to be a "graduate of thirty-one different colleges, universities and institutions in this country and Europe." Some of the "institutions" from which he holds diplomas or certificates are:

Society Oriental Mystics, Chicago, Ill.:—N. E. Wood, A.M., M.D., president; Thomas J. Bettero, M.D., secretary; George V. Booker, treasurer.

The Temple of Moomntaj-Lyumbia "Ka Lama Zurija" India, Chicago, Ill: Dr. L. W. de Laurence, Yoghee and High-Caste Adept in Art Magic and Famous Magician of Alchemy and Fire.

Ancient Order of Oriental Mystics, Chicago, Ill.: Andrew Black, Ph.D., president; T. J. Bettero, M.D., secretary; E. S. Adams, treasurer.

New York College of Magnetics, New York: E. D. Babbitt, M.D., dean, F. G. Welch, M.D., president board of trustees.

New York Institute of Science, Rochester, N. Y.: La Motte Sage, president; Thos. F. Adkins, vice-president; J. S. Wharton, M.D., secretary; Dutton Whitney, M.D., medical director.

College of Therapeutics, Boston, Kansas City and Los Angeles; Joseph Rhodes Buchanan, M.D., president.

If anything further were needed to convince the thoughtful that Orrin Robertson is a full-fledged quack and fraud, his connections with these institutions should do it.

There is nothing, apparently, that Robertson doesn't cure, if one is to believe the balderdash he sends out in his *Journal of Anthropology*. He particularly emphasizes his success in the "non-surgical treatment of gall-stones," a field of endeavor that seems to lend itself peculiarly to the quack and the charlatan. The typical gall-stone-cure faker gives his victim a large dose of some bland oil, such as cotton-seed oil or olive oil, follows it up by a saline cathartic and points with pride to the "gall-stones," as he styles the soapy concretions that persons taking such a mixture pass.

Robertson goes the old fake one better; he claims to remove gall-stones by means of the "Seven Sacred Oils which grow in seven different climes." Not only this, but Robertson says: "I never give the same oils to a person with light hair and eyes that I do to one with dark hair and eyes."

Robertson calls his "seven sacred oils" the "Elixir of Life." He claims:

"One oil acts specifically upon the entire head and throat.
"One oil acts directly upon the esophagus.
"One oil acts directly upon the stomach."

And so it goes, each oil acting a little lower down, until we reach the seventh oil which "acts directly" on the rectum. More wonderful yet, we are told:

"In seven minutes after you take a dose of the seven oils, rub your hand across the back of your neck and you can smell the oils.
"In fourteen minutes, rub your hand across the spine in the thoracic region and you can smell the oils.
"In twenty-one minutes, rub your hand across the spine in the lower dorsal region and you can smell the oils."

And so on. The figure seven is his Shibboleth. Thus:

"There are seven mineral substances, and seven vegetable substances and seven mental substances and seven psychic substances and seven spiritual substances, which, when put together, doth make a *Magical Compound*, which, when properly applied, according to the temperaments, subverts the diseases of the *Liver*. It removes *Gall Stones*."

In addition to gall-stones, Robertson also features a "cure" for cancer. Of course his treatment is "non-surgical"—he does not cure by "cutting, burning, blistering or x-ray." He has the usual list of testimonials purporting to be from men and women who have been cured of cancer.

To read the advertising matter sent out by Robertson and to realize that this hodgepodge of nonsense and charlatanry can and does deceive and defraud thousands of people, makes one gasp at the depths of human credulity. It causes the thoughtful to wonder whether the average intelligence in 1914 is above that found in the days when magicians, witches, gnomes and fairies were established institutions. That such fakers as Robertson are a real menace, however, is evident from the facts brought out in the letter published above. This emphasizes the need of protecting the credulous sick and ignorant from the dangers to which their credulity and lack of knowledge expose them. A state which throws the protection of an admirable "blue-sky law" around the unsophisticated investor should not tolerate for an instant such a meanly fraudulent trade as that carried on by Robertson.

MU-COL

Salt and Borax as Wonder-Workers.

"Mu-col, for Cleansing Mucous Membranes" is a nostrum put on the market by the Mu-col Company (Inc.), Buffalo, New York. As a specimen of the claims made for the preparation, the following is typical:

Mu-col obtains most gratifying results in catarrhal inflammations of the mucous membranes. Leucorrhea, Tonsillitis, Sore Throat, Cystitis, Internal Hemorrhoids, Nasal Catarrh and Pus Cases respond at once to irrigation with Mu-col solution. Strong solutions of Mu-col have proven of sterling value in treating Hives, Prickly Heat, Ivy Poison, Sunburn, Eczema, Typhoid and Scarlet Fever."

This, and much more Mu-col will do—according to its manufacturers! No wonder physicians want to know the composition of Mu-col. As the manufacturers do not give this information the aid of the Association's Laboratory was invoked. Let the chemists speak:

LABORATORY REPORT

"The specimen examined was a white powder, and from the odor, thymol, eucalyptol, camphor and oil of wintergreen could be recognized. Qualitatively sodium, chloride and borate were found. Zinc, benzoate, phenolsulphonate and sulphate could not be found. The solution was alkaline to litmus. Gravimetric determination of chlorid as silver chlorid and titration of borax by Thompson's method indicated sodium chlorid (NaCl) 47.2 per cent., sodium borate ($Na_2B_4O_7+10H_2O$) 50.1 per cent.

"It thus appears that Mu-col is a mixture of ordinary salt and borax in equal parts with the addition of a small amount of aromatic substances."

Mu-col will do just what a solution of salt and borax will do—no more, no less. And yet, it is claimed:

"Mu-col has been successfully used since the year 1900 by more than 50,000 physicians, which has proven it to be the most Efficient, Economical and acceptable preparation in its field."

What Is a Scientific Attitude?—The attitude of science, to begin with that, is before all things a *disinterested* attitude: witness the rise and growth of astronomy, of chemistry, of physiology. Until mankind has learned to take experience in serious earnest "for its own sake," to subordinate personal ends to the pursuit of truth, there is no science, but only something which at its worst is quackery and pseudoscience, at its best common sense and rule of thumb; and conversely, so soon as a man starts out to examine some aspect of experience as if it were for itself important and knowledge of it were intrinsically desirable, so soon does the germ of a science appear.—Titchener in *Pop. Sc. Month.*

Correspondence

Universal Circumcision as a Sanitary Measure

To the Editor:—I was much interested in the article on this subject (THE JOURNAL, Jan. 10, 1914, p. 92). I believe that there are many of us who do not fully agree with Dr. Wolbarst in his sweeping denunciation of non-circumcision. Obviously, this operation is indicated when phimosis exists, and the earlier the better. It is also indicated in elongated conditions of the prepuce, even if not constricted. Most excellent reasons have been advanced for the operation in such cases. But in the man whose foreskin is of such character as partly, or even wholly, to cover the glans when the penis is in a quiescent state, but automatically withdraws at the time of sexual excitement, I can see no valid reason for mutilating the penile organ. An exception might be made to this view of the matter in those who are neglectful of all laws of cleanliness and hygiene, but in this class circumcision is only one of a number of local attentions indicated, provided so extreme a method becomes necessary to keep such part of the person's anatomy clean.

For many years, in patients in whom the procedure is indicated, I have made use of a method which, to coin a name, might be termed a circumcisionoid—at least, so far as the desired results are concerned, for, of course, etymologically considered, the word is a false one—and that is to hold the prepuce back from the glans by action of a rubber band.

Such a fixture, of proper size and properly adjusted, just as fully and satisfactorily "circumcises" the individual as in case of its removal. I habitually make use of this procedure in all my venereal cases, and often as a means of sanitation. Still further, though I am unable wholly to account for the method of healing, I have observed the clearing up of long-standing cases of urethritis and prostatic irritation. In many cases, also, the presence of this band seems to train the parts in such a way as to make the prepuce hold its retracted position permanently, yet it is not lost to its owner.

The bands referred to are such as are ordinarily used as a substitute for twine in holding papers, small packages and the like. Care should be taken to select those having the greater width, in order to avoid injury to the delicate structures encircled. JAMES BROWN THORNTON, M.D., Boston.

[The foregoing letter was referred to Dr. Wolbarst, who replied:]

To the Editor:—I believe in circumcision as a prophylactic measure; Dr. Thornton advocates the operation as a therapeutic measure. Conservatism is to be found in a wise prophylaxis which submits the infant to a slight and harmless operation, performed in a few seconds, rather than subject him to the serious risks which must be conceded to the possession of a foreskin. I admit that, in a man who is cleanly in his habits, a foreskin which moves freely over a clean glans, does not necessarily have to be removed. How do we know that any infant's foreskin is going to behave in this way when the child becomes a man? If we could foretell that, in adult life, such an infant will keep the glans and foreskin clean, that the prepuce will not be tight or long, that the man will not acquire venereal disease, or that he will not even subject himself to the risk of venereal infection, in such circumstances I should agree with Dr. Thornton that it would be just as well not to "mutilate the penile organ." But we do not and cannot know these things in advance; consequently, since I regard every foreskin as potentially capable of causing the pathologic conditions mentioned in my article, it seems best to take advantage of the accumulated experience of many centuries, and remove this useless bit of flesh, which can be of no possible service, and which we all agree, may do considerable harm.

As to the rubber band plan, two thoughts suggest themselves: The first is that it would be simpler and more efficacious to perform circumcision and be done with it, rather than compel the patient to wear the band all his life; secondly, that the wearing of such a rubber band, tight enough to retain the prepuce in place, might be conducive to a chronic hyperemia or congestion of the glans, which would in all probability give the wearer a sensation that would resemble a "permanent erection," of a mild degree. Dr. Thornton states that "the presence of this band seems to train the parts in such a way as to make the prepuce hold its retracted position permanently, yet it is not lost to its owner." Here we seem to have another argument for circumcision. Why should the prepuce be retracted permanently? And if it is well for the prepuce to be retracted permanently and thus expose the glans, of what good is it that "it is not lost to its owner"? If it does not serve its natural purpose of covering the glans, of what use is it to the individual, retracted back from the glans?

A. L. WOLBARST, M.D., New York.

Emetin Hydrochlorid in Amebic Dysentery

To the Editor:—In THE JOURNAL, Nov. 22, 1913, p. 1899, is reported a case of amebic dysentery treated with emetin hydrochlorid. This is the approved method of treatment for amebic dysentery among missionary physicians in China. In the *China Medical Journal*, March and July, 1913, are reported ten cases and seven cases, respectively, in which all the patients were treated with emetin hydrochlorid hypodermically and all were relieved of their dysenteric symptoms in an almost incredibly short time. In the former series, Case 5 did not respond so readily as the others, and it was not until the tenth day of treatment that the mucus disappeared from the stools. This was a case that had been treated unsuccessfully with ipecac powder six months previously. To me this is interesting, inasmuch as of the four cases I have had since Oct. 16, 1913, all of which were apparently cured with emetin hydrochlorid, the one case that did not respond readily had been treated with ipecac powder one year before. This patient came irregularly to the dispensary for eleven days, and received in six injections a total of 11 grains of emetin hydrochlorid. After the last injection of 2½ grains he was relieved of all symptoms. He showed no nausea or other discomfort as a result of the large dose. Is it not likely that in the two cases cited the previous treatment with ipecac influenced unfavorably the later treatment with the alkaloid?

JOHN H. KORNS, M.D., Taianfu, Shantung, China.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

"THE ANATOMIST" OF REMBRANDT

To the Editor:—I am enclosing a photograph of a picture that was a gift to me. I have forgotten the name of the picture and its history, and have been unsuccessful in finding the necessary information. Can you help me?

JOHN R. BLACK, M.D., Jefferson, Iowa.

ANSWER.—The so-called "Lesson in Anatomy," or more properly "The Anatomy of Dr. Tulp," was one of the first pictures painted by Rembrandt after he settled in Amsterdam in 1631. As he began to paint in Leyden in 1627, the data of this picture (1632) show it to have been also one of the earliest of his greater works. It hangs in the Hague Gallery. These dissecting scenes were favorite subjects of the Dutch and Flemish painters in the seventeenth century, and Rembrandt derived the idea from the earlier "Anatomies" of Pietersz (1603), Mierevelt (1617), de Keyser (1619) and Elias (1625) in the Amsterdam and Delft collections. The central figure of the picture is Dr. Nicolas Tulp (1593-1674) of Amsterdam, who became reader of anatomy to the Surgeons' Guild in 1626, which office he held until 1653, after which he became burgomaster of Amsterdam (1654-1655, 1666, 1671). He described the ileocecal valve, discovered by Bauhin, but also called the valvula Tulpii, and, in 1639, was the first to demonstrate in man the lacteal vessels, which had been

discovered by Aselli in the dog in 1622. He also compiled the first city pharmacopeia of Amsterdam (1636), through which the apothecaries were finally compelled to fill prescriptions in a uniform manner. In clinical medicine he made his mark by his description of beriberi (1652), in which he was preceded by Jacob Bontius (1642), the knowledge of this disease having of course been derived from the contact of the Dutch merchantmen with the East Indies. Two other facts go to make up his reputation as a "citizen of credit and renown," namely, that he was instrumental in making tea, which had also just come from the Far East, a household beverage, and that he was the first to describe an anthropoid ape, the chimpanzee, a fact which has been confirmed by Huxley. A fine portrait of Dr. Nicolas Tulp by Nicolas Elias hangs in the Six Gallery, Amsterdam. The names of the other physicians in the Rembrandt "Anatomy," from right to left, beginning with the lower row, are given as: Jakob Block, Jakob de Witt, Adriaen Slabraan, Jakob Koolveld, Hartmanez, Kalkoen and Franz van Loenen. The name of the dissected subject cannot be ascertained, as two dissections were made in Amsterdam during the year 1632. In 1656, Rembrandt painted one other great "Anatomy," that of Dr. Johan Deyman, which was partly destroyed by fire, Nov. 8, 1723, and now hangs, a fragment only, in the Amsterdam Gallery. It represents a dissection of the brain in a foreshortened cadaver, but the head of Deyman himself has been burned off, giving the appearance of a decapitated upright figure. When Sir Joshua Reynolds visited Holland in 1781, he was so much impressed with the execution and coloring of this picture that he said

The Anatomy of Dr. Tulp, by Rembrandt.

it reminded him of Michael Angelo and Titian. On account of its injury by fire, it was sold to a Mr. Chaplin of London in 1841, was exhibited at Leeds in 1868, and then disappeared, to be found long afterward by Geheimrat Bode, the Rembrandt expert, in the storeroom of the South Kensington Museum. It was then purchased by patriotic Dutch connoisseurs and taken back to Amsterdam.

PONDER'S STAINING METHOD

To the Editor:—In the *United States Naval Medical Bulletin*, October, 1912, is described a new technic for staining diphtheria specimens with toluidin blue, as follows:

Toluidin blue (Grubler's)	0.02
Glacial acetic acid	1.
Absolute alcohol	2.
Distilled water to	100.

"The film is made in the usual way on a cover-glass and fixed by passing through the flame of a lamp. A small quantity of the stain is spread on the film, and the cover-glass is turned over and mounted as a hanging-drop preparation. Typical diphtheria bacilli are said to stain blue with *red granules*."

Will toluidin blue alone produce the double stain as described above? A. E. CONTER, M.D., Chattahoochee, Fla.

ANSWER.—This query has reference to the method of Ponder, described in the *Lancet*, London, 1912, clxxxiii, 22. As is well known, the diphtheria bacilli are characterized by the appearance of metachromatic granules at their ends and throughout their protoplasm. These granules stain more deeply with the ordinary methylene blue stain than does the body of the bacillus. With the toluidin stain of Ponder, these granules take a red stain, while the body of the organism is blue. It is true that this method does give a double staining with the toluidin blue, but the intensity of the staining is variable. Ponder recognizes four types of staining with this stain: 1. Certain cells do not take the stain at all. 2. Some cells are entirely blue. 3. Some cells are pink or red throughout. 4. Other cells show a blue protoplasm with red metachromatic granules. In the latter group are found the true diphtheria bacilli. Frequent use of this method has demonstrated its double-staining power, but has not justified Ponder's assertion that the stain is more valuable than Neisser's.

BOOKS ON THE HISTORY OF MEDICINE

To the Editor:—Please supply me with a list of the recent publications on the history of medicine.

JOEL I. BUTLER, M.D., Tucson, Ariz.

ANSWER.—The following is a list of histories of medicine published within the last twenty-five years:

Baas, J. H.: Outlines of History of Medicine, New York, W. R. Jenkins Company, $6.

Davis, N. S.: History of Medicine, Chicago, Cleveland Press, $2.

Garrison, F. H.: Introduction to History of Medicine, Philadelphia, W. B. Saunders Company, $6.

Gorton, D. A.: History of Medicine, 2 volumes, New York, G. P. Putnam's Sons, $6.

Mumford, J. G.: Medicine in America, Philadelphia, J. B. Lippincott Company, $3.

Mumford, J. G.: Surgical Memories, New York, Moffatt Yard & Co., $2.50.

Neuberger, M.: History of Medicine, New York, Oxford University Press; Vol. I, $9; Vol. II in preparation.

Packard, F. R.: History of Medicine in United States, Philadelphia, J. B. Lippincott Company, $4.

Park, R.: Epitome of History of Medicine, Philadelphia, F. A. Davis Company, $2.

Payne, J. F.: English Medicine in Anglo-Saxon Times, New York, Oxford University Press, $2.90 net.

Walsh, J. J.: Catholic Churchmen in Science, New York, Fordham University Press, $1.

Walsh, J. J.: Makers of Modern Medicine, New York, Fordham University Press, $2.

Walsh, J. J.: Old-Time Makers of Medicine, New York, Fordham University Press, $2.

Wilder, R. N.: History of Medicine, Cincinnati, Scudder Brothers, $3.

Wootton, A. C.: Chronicles of Pharmacy, New York, The Macmillan Company, 2 volumes, $6.50.

EFFICIENCY OF FORMALDEHYD STERILIZERS

To the Editor:—1. What is the actual efficiency of the "Erie" and other similar "sterilizers" consisting of a glass case with shelves, with a saucer of liquor formaldehydi on the bottom for the sterilization of (*a*) instruments, (*b*) rubber gloves and (*c*) dressings?

2. If these sterilizers are efficient, is it essential that the case should close hermetically? R. S. P.

ANSWER.—It is impossible to state the actual efficiency of any of these formaldehyd sterilizers as no experimental evidence on the subject is available. It is generally accepted as a fact that exposure to the vapors of formaldehyd with a sufficiency of moisture in the air is an efficient method of disinfection, provided that the concentration of formaldehyd is great enough. (*a*) With reference to instruments, inasmuch as we cannot well be sure of absolute efficiency, it is desirable that instruments be boiled before using. (*b*) For rubber gloves boiling is certainly preferable. (*c*) It is probable that dressings can be disinfected in this way and subsequently dried, but the disadvantage of such a method as compared with sterilization by steam are obvious.

2. The case should be air-tight or nearly so.

SODIUM CACODYLATE IN SYPHILIS

To the Editor:—Is sodium cacodylate an efficient anti-syphilitic even if given in very large doses? J. G. M.

ANSWER.—Sodium cacodylate has not been used to a sufficient extent to determine its true value, though the evidence seems to be that while it is of service it is not an agent to be relied on alone. The latest article dealing with this subject that we can find (Sodium Cacodylate in Syphilis, *New York Med. Jour.*, March 2, 1912; abstr., THE JOURNAL, March 23, 1912), is by L. J. Spivak, who found that it had practically no effect on a Wassermann reaction. He says that while its action is not so rapid as salvarsan, it gives a result not unlike that of salvarsan.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: New Haven, March 10. Sec., Dr. Charles A. Tuttle, New Haven. Homeopathic: New Haven, March 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Eclectic: New Haven, March 10. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

KANSAS: Topeka, Feb. 9-11. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 10-11. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, March 10-12. Sec., Dr. Walter P. Bowers, Room 159, State House, Boston.

MISSOURI: Jefferson Hotel, St. Louis, Feb. 9-11. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, Feb. 11. Sec., Dr. H. B. Cummins, Seward.

WYOMING: Laramie, March 10-12. Sec., Dr. H. E. McCollum, Laramie.

HIGH-SCHOOL CREDENTIALS FOR SALE

Illustration of Irregular Methods by Which Commercially Conducted Medical Colleges Admit Students Contrary to Law

In checking up recently the methods employed in admitting students to several of Chicago's multiplicity of medical colleges, a number of irregularities have been found:

(*a*) Students readily gained admission to these colleges, though they previously had been refused admission to other medical colleges—those which had strictly enforced, for every student admitted, the completion of a four-year course in an accredited high school.

(*b*) Students who had failed to complete work satisfactorily in a number of reputable medical schools and who, therefore, had been refused promotion in those schools, have readily gained advanced standing, without such penalty, in these low-standard colleges.

(*c*) Advanced standing, apparently without the requirement of additional work, has also been granted to students coming from notoriously low-grade medical colleges.

These findings led to a further investigation which revealed the fact that many students had in some way received credentials claimed to be "a high school equivalent" but who had completed far less than four years of work in a standard high school. In fact, it was apparent that some who held such credentials had not attended beyond the eighth grade in the public schools; nevertheless, they had secured apparently with ease, this so-called "equivalent" certificate and had gained admission to these schools.

A CREDENTIAL MILL DISCOVERED

In this investigation a young man posing as a medical student succeeded in unearthing a credential mill, from which, by the payment of $25, a certificate was secured which was supposed to be based on a legitimate examination covering all the branches of the four-year high-school course. The openness with which this "credential mill" was conducted and the ease with which this young man secured his certificate, justifies the belief that those concerned have carried on a highly profitable business and that many of the students enrolled in Chicago's low-grade medical colleges have secured admission on the basis of these or equally questionable certificates. It will be noted that the methods employed were such as to deceive even the most conscientious inspectors of preliminary credentials, unless effective routine methods of verification are followed.

Although the Bennett Medical College is the institution chiefly referred to in what follows, there is reason to believe that credentials equally unreliable have been accepted by at least two other Chicago medical colleges. Bennett Medical College is only nominally the medical department of Loyola University. It is a stock corporation, all the stock being controlled up to a few weeks ago, at least, according to the statement of Dr. Robertson himself, by Dr. John Dill Robertson and Dr. William F. Waugh. We do not believe that Loyola University appreciates the character of the methods employed at the medical school to which it has loaned its name.

WHAT WAS ACCOMPLISHED

The would-be medical student, Mr. W. R. Cowgill (which is not his correct name), assuming to come from an adjoining state, and stating that he had completed only one and one-half years in a high school, succeeded, through Mr. O. T. Owen, registrar of the Bennett Medical College, in securing from the Balfour Johnstone School, apparently the same institution as the Brooks Classical School, a certificate supposed to represent the equivalent of a high-school education. This certificate, which was signed by Mr. John J. Kerwin, County Superintendent of Schools for Kenosha County, Wis., was obtained after a pretense at an examination, both the questions and the answers having been previously furnished Mr. Cowgill. Even then, such writing as was required for the examination was done in his own room. The certificate thus obtained was accepted at the Bennett Medical College, and on it Mr. Cowgill was enrolled as a freshman student in that college. We will allow him to tell the story in his own words.

Statement by Mr. Cowgill:

The following is a brief outline of how I secured a certificate which was issued through the aid of the Bennett Medical College after a fake examination; how it was accepted at this college as equivalent to a high school diploma, and on which I was entered as a Freshman Student.

Those who were parties to the transaction were: (*a*) Mr. O. T. Owen, Registrar of Bennett Medical College and evidently the controller of the Brooks Classical School; (*b*) Mr. Balfour Johnstone, who operates the Balfour Johnstone School and manages the Brooks Classical School at Room 1017, Schiller Building, 64 West Randolph Street, Chicago, and (*c*) Mr. John J. Kerwin of Silverlake, Wis., County Superintendent of Schools for Kenosha County (with or without his personal knowledge of the methods employed).

The Balfour Johnstone School apparently is an institution doing private tutoring, and conducting quiz classes preparing students for civil service examinations and for entrance to medical schools. My experience, however, shows that not all the methods employed were strictly legitimate. This institution and the Brooks Classical School were apparently one and the same; at least the two occupied the same office, Room 1017 Schiller Building, as already stated.

THE CORRESPONDENCE

On September 13, I wrote Bennett Medical College as follows:

PORT HURON, MICH., Sept. 13, 1913.

BENNETT MEDICAL COLLEGE,
Ada and Fulton Streets, Chicago.

Dear Sir:—I want to go to a good medical college and heard about your college. Please send a catalogue. What would I have to do to start and when would I have to begin? Haven't gone to school much but ain't afraid to work. How much does it cost?

Yours truly, W. R. COWGILL,
1418 Sixth Street, Port Huron, Mich.

In response I received the following form letter from Mr. Owen and an application blank:

Sept. 17, 1913.

MR. W. R. COWGILL,
1418 Sixth Street, Port Huron, Mich.

Dear Mr. Cowgill:—In compliance with your favor received we take pleasure in sending under separate cover Announcement for 1913-14 of Bennett Medical College and which we hope will have your careful reading. We wish to especially call your attention to the list of Faculty, being composed of men eminent in the medical world, also the schedules will convince you of the high character of work done both in theory and practice. Bennett is affiliated with one of the leading Universities of the country; its hospital ownings and affiliation make it a power of strength in the way of practical medical training; its equivalent fully serves the needs and requirements of a medical school of its size and importance finally backed by an Alumni counting over three thousand successful practicing physicians.

As a matter of great concern to you, after the present enrollment has been made up, which will be on or about Oct. 15, 1913, Bennett will be advanced to a "five-year school," and necessitating an entrance requirement of one year University work in connection with the High School credits. In consequence, in order to avail yourself of the present "four-year medical course" it will be necessary to have your early enrollment, together with a certified copy of your entrance credits for filing in the College Office. Also of importance, if lacking entrance credits, let us hear from you and accompanied with full advice.

We are mailing under this cover an Information blank. By your filling out same and returning to us, it will facilitate matters and permit of our advising you regarding entrance credits. The

Fall and Winter Term opens TUESDAY, SEPT. 23, 1913; to enter under present conditions (four-year course) means that you should not delay in writing us.

We will appreciate the favor and your every request for information will have our immediate and best attention. We will hope for your early reply.

Sincerely yours, BENNETT MEDICAL COLLEGE,
O. T. Owen, Registrar.

The application blank which accompanied the preceding letter is as follows, the portions which I filled in being shown by italics:

LOYOLA UNIVERSITY

APPLICATION FOR MATRICULATION

The undersigned hereby applies for admission to the *Medical* Department of Loyola University in the *Freshman* class and if admitted to comply with all the rules and regulations of the College.
Date of Application, *Sept. 19, 1913.*
Occupation, *Salesman.*

	Day	Month	Year	
Birth	*31*	*March*	*1885*	Place, *Fort Gratiot, Mich.*

Chicago Address———— Phone———
Business Address———— Phone———
References:
Nationality, *American.* Age, *28*
Color, *White.*
Preliminary Education, *St. Clair, Mich., High School. Went first year and part of second, then had to quit and go to work.*
Previous———— Education————
Name in Full, *Wm. R. Cowgill.*
Home Address, *1418 Sixth Street,*
MATRICULATION FEE, $5.00 *Port Huron, Mich.*
Approved————Dean.
Chicago, ————, 19—.

In my application as will be noted, I said that I had only one and one-half years of high school work. The application was returned to Bennett Medical College with the following letter:

Port Huron, Mich., Sept. 19, 1913.

BENNETT MEDICAL COLLEGE
Chicago, Ill.

Gentlemen:—Your letter received. Am returning the application blank filled out. Please let me know soon if I can enter your medical school so I can arrange to come. Was intending to go to St. Louis where I could get fixed all right but would rather stay in Chicago if you can take me as I can get work easily. Can I get my degree in four years? Want to get my diploma earliest time possible and don't want to waste a lot of time on useless high school work.

Please answer soon. Yours truly, W. R. COWGILL,
1418 Sixth Street, Port Huron, Mich.

The following is Mr. Owen's reply stating that he would take good care of my preparatory credits [See also Fig. 1]:

WM. R. COWGILL, Sept. 27, 1913.
1418 Sixth Street, Port Huron, Mich.

Dear Mr. Cowgill:—Your letter and application blank received and after referring same to the Council of the college they state that it will be very satisfactory provided you enter at this time.

We will take good care of your preparatory credits and see that you graduate in the time desired, four years.

Hoping that you will be able to come at once, we remain,
Yours very truly, BENNETT MEDICAL COLLEGE,
O. T. Owen, Registrar.

Note my reply stating that I would enter and pay $25:

BENNETT MEDICAL COLLEGE, Oct. 2, 1913.
Chicago, Ill.

Dear Sirs:—I got your letter but did not know really what to do. Find I can't get all my money till next January. Can I enter and pay $25 down and $15 or $20 a month? Could pay balance in January. Want to locate in Michigan but am afraid of the Michigan Board. Hear they are awful cranky about a fellow not having a high school diploma. Can't you fix me up with a paper that will go with them? Then can't I clean up this high school business soon after I come? Have enough to pay board, books, etc., for a week or so. After that will need all the time I can get for odd jobs to help pay expenses. Please write soon if this can be fixed all right. Ain't afraid to work but can't afford to come if no chance.

Yours truly, W. R. COWGILL,
1418 Sixth Street, Port Huron, Mich.

Mr. Owen's reply, which follows, advised me that he had referred the matter to the preparatory school:

MR. W. R. COWGILL, Oct. 7, 1913.
1418 Sixth Street, Port Huron, Mich.

Dear Mr. Cowgill:—Your favor received and you had best begin at once with the preparatory school to work off a few subjects in advance of your coming and which would meet the requirements of the Michigan State Board, notably 2 yrs. in Latin.

The tuition you desire to pay is entirely satisfactory and as regards working to help meet your expenses, we will have no difficulty along that line, being in a good position to take care of you.

Unless we hear from you, we will refer your name to our preparatory school and they will send you advice regarding all matters.

Sincerely yours, BENNETT MEDICAL COLLEGE,
O. T. Owen, Registrar.

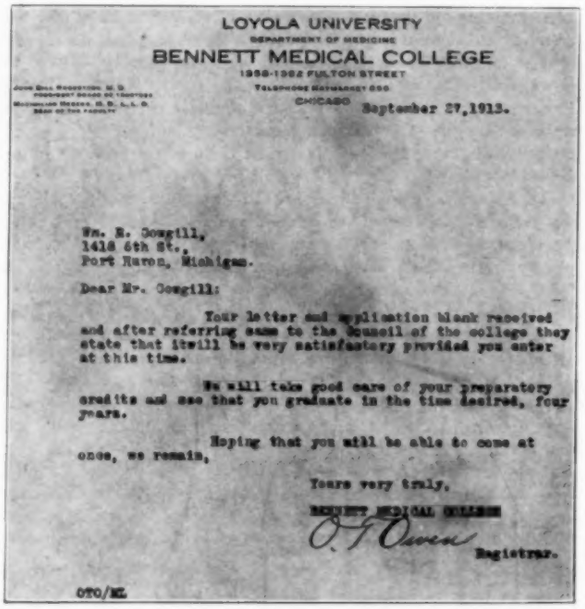
I then wrote as follows requesting that his preparatory school send me advice regarding preliminary matters. I enclosed $5 to pay matriculation fee.

1418 Sixth Street, Port Huron, Mich.

BENNETT MEDICAL COLLEGE, Oct. 13, 1913.
Ada and Fulton Streets, Chicago.

Dear Sirs:—Intended to come to Chicago the last of this week but find I can't get the money I expected but can doubtless come some time next week. Meanwhile please have your preparatory school send me the advice you suggested regarding all preliminary matters so that I won't have to waste any time after I get there. I must get my diploma in four years as promised in your letter of September 27. Would like to be in shape to practice in Michigan but don't want to waste to much time for the purpose. I am enclosing $5 to pay the matriculation fee. Please send receipt.

Yours truly, W. R. COWGILL.



LOYOLA UNIVERSITY
DEPARTMENT OF MEDICINE
BENNETT MEDICAL COLLEGE
1956-1962 FULTON STREET
TELEPHONE HAYMARKET 650
CHICAGO September 27,1913.

Wm. R. Cowgill,
1418 6th St.,
Port Huron, Michigan.

Dear Mr. Cowgill:

Your letter and application blank received and after referring same to the Council of the college they state that it will be very satisfactory provided you enter at this time.

We will take good care of your preparatory credits and see that you graduate in the time desired, four years.

Hoping that you will be able to come at once, we remain,

Yours very truly,
BENNETT MEDICAL COLLEGE
O. T. Owen
Registrar.

OTO/KE

Fig. 1.—Note in this letter Mr. Owen agrees to take good care of my preparatory credits and guarantees my graduation in four years.

In the following reply Mr. Owen stated that he would take the matter up with the Brooks Classical School, and enclosed me a receipt for my matriculation fee (See also Fig. 2):

MR. W. R. COWGILL, Oct. 14, 1913.
Port Huron, Mich.

Dear Mr. Cowgill:—Your favor received and we are mailing under this cover receipt for matriculation for which please accept our thanks.

We will also take your matter up with the Brooks Classical School and you will hear from them by first mail.

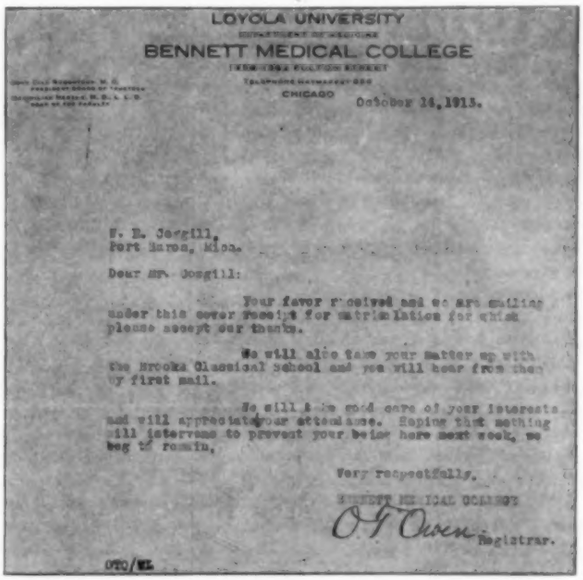
We will take good care of your interests and will appreciate your attendance. Hoping that nothing will intervene to prevent your being here next week, we beg to remain,

Very respectfully, BENNETT MEDICAL COLLEGE,
O. T. Owen, Registrar.

THE PERSONAL INVESTIGATION

Thursday, October 23, I called at the business office of Bennett Medical College and saw Mr. Owen. I told him who I was and that I wanted to get through a medical school in four years, if possible, and did not want to waste any time on preliminary courses. He referred to his correspondence and suggested, inasmuch as I only had one and one-half years of high school work, that I enter at once as a special student, make up the preliminary requirements in six or seven months and take an examination about Jan. 1, 1914.

I told him that I could not afford to spend that much time on an uncertainty and that I had heard that he would fix me up in a couple of weeks by a little studying and an examination. He then told me that he controlled the Brooks Classical School and could fix me up. As evidence of this, he took out of his inside pocket a certificate which had been sworn to before a notary public, stating that a certain person (I think Sage was the name), had taken an examination



LOYOLA UNIVERSITY

DEPARTMENT OF MEDICINE

BENNETT MEDICAL COLLEGE

1826-1834 FULTON STREET

TELEPHONE HAYMARKET 880

CHICAGO October 14, 1913.

W. B. Josgill,
Port Byron, Miss.

Dear Mr. Josgill:

Your favor received and we are enclosing under this cover receipt for matriculation fee for which please accept our thanks.

We will also take your matter up with the Brooks Classical School and you will hear from them by first mail.

We will take good care of your interests and will appreciate your attendance. Hoping that nothing will intervene to prevent your being here next week, we beg to remain,

Very respectfully,

BENNETT MEDICAL COLLEGE

O T Owen Registrar.

OTO/WL

Fig. 2.—Note that Mr. O. T. Owen refers to the Brooks Classical School, which occupies the same office, and is apparently the same institution as the Balfour Johnstone School.

before a county superintendent of public instruction. He assured me that this was sufficient for the Illinois State Board of Health and was all that the law required. He took a folder out of his pocket and from it read that a physician applying before the Illinois State Board of Health must have a high school certificate or its equivalent, and that should an examination be necessary, it must be taken before a state or county superintendent of public instruction. As the certificate above mentioned was signed by a county superintendent of Wisconsin, I asked him if it was good in Illinois. He said it was. In course of the conversation he said there was no law you could not get around. He told me it would not take long for me to get my certificate, as I would be furnished the questions and answers and that Mr. Johnstone (referring to the man in charge of the Brooks Classical School) would fix me up. He urged me to enter the freshman class of Bennett Medical College that afternoon, but I told him that I would prefer to wait until I had talked the matter over with Mr. Johnstone.

THE CREDENTIAL MILL LOCATED

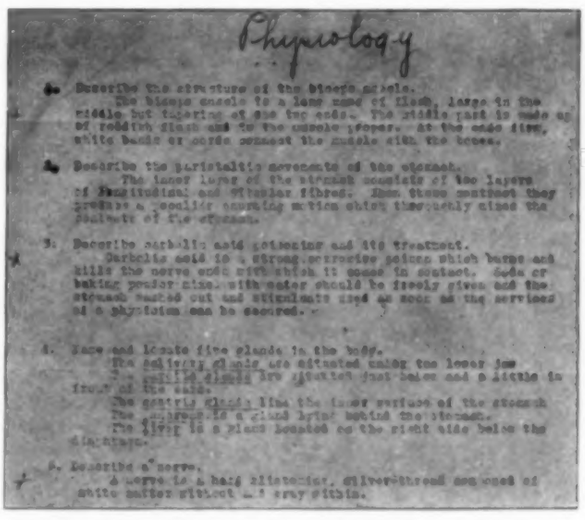
About 5:15 that afternoon Mr. Owen went with me to Mr. Johnstone's office, Room 1017, Schiller Building. On the glass door of this room was the sign: "The Balfour Johnstone School, Brooks Classical School." We met Mr. Johnstone and the three of us talked very quietly about the matter. Mr. Owen stated that I wanted to enter Bennett Medical College, that I had no time to lose, and that he wanted Mr. Johnstone to do what he could for me. Mr. Johnstone explained that he would give me sets of questions which covered the subjects required for the certificate and which had the answers filled in. He said I could easily learn the answers and nobody would know but that I had been attending his school for six or eight months. He emphasized the fact that this was strictly a confidential matter, known only to Mr. Owen, Mr. Johnstone and myself. Mr. Johnstone said that some man (apparently referring to Mr. Kerwin) would come to Chicago and give the examination, but that he did not know anything about the preliminary work. He said if he was fortunate enough to get the questions, then I would be the winner. Mr. Owen then told him to let me "go through with the original twelve." I asked Mr. Johnstone how much it would cost and Mr. Owen spoke up and said he would see that I got my certificate for $25. He explained that $15 was to go to Mr. Johnstone and $10 to the one who gives the examination. Mr. Johnstone said that this arrangement was satisfactory to him. Mr. Owen then said I was pretty lucky in getting in now, as next year higher requirements would go into effect.

QUESTIONS WITH ANSWERS GIVEN OUT

I said I would like to get started right away, and with that Mr. Johnstone reached over to a book-cabinet back of me and took off several sheets from a stack of paper that was lying on the top of the books. He gave me several sheets of mimeographed paper which contained the questions and answers for eight subjects, namely: English literature, geometry, botany, civil government, physical geography, ancient history, medieval and modern history and English history. He said he would give me the balance when I came again. For each of the eight subjects there were five questions with the answers (see Fig. 3). Mr. Owen told me I had better come in the following Saturday and pay Mr. Johnstone $15, and that I could pay the balance when I got my certificate. I did not go back, however, until Monday, October 27. Mr. Johnstone did not recognize me at first and asked what arrangements he had made with me. I told him in brief what I had come for and then he remembered me. I gave him the $15 as requested by Mr. Owen, for which he gave me a receipt.

I ENROLL AS A MEDICAL STUDENT

The next day, Wednesday, October 29, I went to the Bennett Medical College to enroll. Mr. Owen requested me to fill out another application blank and sign a note for $62.50 for my fees, as I told him I could not pay cash. His young lady



Physiology

1. Describe the structure of the biceps muscle.
The biceps muscle is a long mass of flesh, large in the middle but tapering at the two ends. The middle part is made up of reddish flesh and is the muscle proper. At the ends fine, white bands or cords connect the muscle with the bones.

2. Describe the peristaltic movements of the stomach.
The inner lining of the stomach consists of two layers of transitional and circular fibres. When these contract they produce a peculiar churning motion which thoroughly mixes the contents of the stomach.

3. Describe carbolic acid poisoning and its treatment.
Carbolic acid is a strong corrosive poison which burns and kills the nerve ends with which it comes in contact. Soda or baking powder mixed with water should be freely given and the stomach washed out and stimulants used as soon as the services of a physician can be secured.

4. Name and locate five glands in the body.
The salivary glands are situated under the lower jaw
[illegible] glands are situated just below and a little in front of the ears.
The gastric glands line the inner surface of the stomach.
The pituitary is a gland lying behind the stomach.
The liver is a gland located on the right side below the diaphragm.

5. Describe a nerve.
A nerve is a hard glistening, silver-thread appearance of white matter without [illegible] gray matter.

Fig. 3.—A reproduction of the examination questions, with the answers, in one of the subjects—physiology.

stenographer helped me fill out the application and instead of giving my preliminary education as one and one-half years of high school work (see page 478), she told me to insert the words "high school equivalent." My original application blank was then destroyed and the new one placed on file. This change was apparently for the purpose of disguising the fact that my attendance at high school had been for so brief a period.

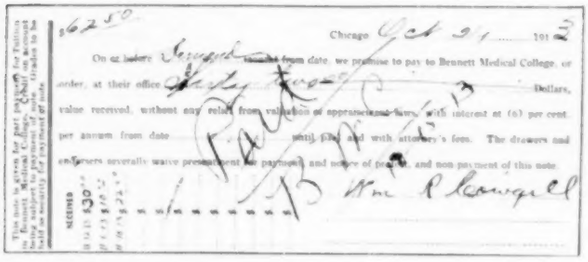
Having fixed my application blank I was sent to the front office to a Mr. Waugh who had a card made out, placing me in seat 57 and section 1 of the freshman class. I then paid $1 for a locker, and after some difficulty secured one.

Friday, November 7, I paid Mr. Owen $10 for the examination. This, added to the $15 already paid to Mr. Johnstone, amounted to $25, which my preliminary certificate cost me.

Tuesday, November 11, and on several other occasions, I visited the Balfour Johnstone School and was quizzed on some of the subjects on which I was to be examined. I asked Mr. Johnstone for the questions covering the remaining subjects. He told me that Mr. Owen had not sent them down, and asked me to remind Mr. Owen about sending him the additional questions.

ADDITIONAL QUESTIONS SECURED

Wednesday, November 12, complying with the request of Mr. Johnstone, I asked Mr. Owen for the additional questions. He took a bundle of papers out of his desk and gave them to his stenographer, who wrapped them up and gave them to me. In a private place I opened this package and found about twenty-five sets of questions covering the additional six subjects on which I was to take examination. Each paper excepting those for German and American history had five questions with answers similar to those given me Thursday, October 23. The paper for German had only four questions and in the paper for American history the fourth question had been omitted. I tied the papers up again and later delivered the package to Mr. Johnstone. He opened the package and gave


$62.50 Chicago Oct 21 1912

On or before Sept 1913 from date, we promise to pay to Bennett Medical College, or order, at their office Chicago Dollars, value received, without any relief from valuation or appraisement laws, with interest at (6) per cent. per annum from date until paid and with attorney's fees. The drawers and endorsers severally waive presentment for payment, and notice of protest, and non-payment of this note.

SEEMS PAID

Wm P Campbell

Fig. 4.—Copy of the note which was given in payment of tuition fees. This note, as will be seen, was paid in three separate installments.

me one set covering the subjects of Latin, German, physiology, algebra, physics and American history. I had thus been used as a messenger between the Bennett Medical College and the Balfour Johnstone School (Brooks Classical School). I served in the same capacity on another occasion to be mentioned later.

I paid Mr. Owen partial amounts on the note for my medical college fees, as will be seen, and paid the balance about November 15, when it was returned to me marked "Paid, B. M. C." by his stenographer (see Fig. 4).

HOW THE EXAMINATION WAS HELD

Friday, November 21, I called on Mr. Owen and stated that I was going to Mr. Johnstone's school to take my examination. He asked me as a favor if I would take the examination paper down with me. I agreed and he had his stenographer wrap up two or three hundred sheets of yellow paper 8½ by 11 inches, which he got from another room. Thus not only had examination questions (with the answers supplied) been furnished from Bennett Medical College, but also the paper to be used at the examination. I arrived at Mr. Johnstone's school between 11 and 12 o'clock, but since no one else was there, I left saying I would come back later; I wanted to see who else was to take the examination. I went back that afternoon about 1 o'clock, and found two other young men in his office. I sat at the left side of Mr. Johnstone, while at his right sat the two young men just referred to. Each of us was given about twenty-five sheets of yellow paper similar to that I had brought from Bennett Medical College. Up to this time I had understood that the examination would be given by a Mr. Kerwin, but Mr. Johnstone stated that inasmuch as there were only three students, Mr. Kerwin did not think it necessary to come down. Mr. Johnstone said he did not see any use of us boys staying there in his office, but told us to take the paper home, and copy off the answers, and return our examination papers by the following night. He said Mr. Kerwin would not know the difference. Only about fifteen minutes were occupied in securing these instructions from Mr. Johnstone.

I followed the other boys out and found they had also come from Bennett Medical College and the three of us walked back to the college together. They had been furnished with mimeographed sets of questions and answers, which, on comparison, I found were the same as those furnished me. One of the boys stated that he had paid $5 on his certificate, but that Mr. Owen wanted more. The other boy stated that he had paid Mr. Owen $15 and did not think that he would have to pay any more. I had paid $25 to get my certificate. We all worked in the dissecting room that afternoon between 2 and 3 o'clock.

ACTUAL WORK REQUIRED FOR THE CERTIFICATE

I went to my room about 4 p. m. and began work on my examination papers. It took me four or five hours to copy the answers from the mimeographed sheets. My previous attempts at memorizing these answers and the copying of them was the only work connected with the examination. I returned my examination papers to Mr. Johnstone Saturday afternoon, November 22.

Tuesday, December 2, I called at Mr. Johnstone's school for my certificate and was advised that they had not heard from Mr. Kerwin. Thursday, December 4, I again called and Mr. Johnstone said that he had overlooked giving Mr. Kerwin the days of the month on which the examination was supposed to have been held. He asked me if I remembered it, and I told him November 21 and 22. I went back on Monday, December 8, and he told me the certificate had been delayed through an oversight on his part, as he had not sent the questions on one of the subjects to Mr. Kerwin. I called at Mr. Owen's office inquiring about my certificate on December 2, and also December 9, and he told me that he expected it most any day.

I GET MY CERTIFICATE

Monday, December 15, when I called at Mr. Johnstone's office, he went to his desk and pulled open a drawer and took out a roll of certificates. He looked at two or three, and then pulled out mine and gave it to me. I examined it and noticing that subjects were mentioned in it in which I had not taken examinations, asked him if the certificate gave me sufficient credits. He said I surely ought to have rhetoric and told me to take up the matter with Mr. Owen and that I could get questions and answers on any additional subjects. Before calling on Mr. Owen, however, the certificate was photographed and a zinc etching made of it. (See Fig. 5.)

Wednesday, December 17, I called at Mr. Owen's office and told him that I had secured my certificate from Mr. Johnstone but wondered whether it gave me enough credits. I showed him the certificate, and he said I would have to have English grammar, composition and rhetoric. He asked me to let him have the certificate and said he would have Mr. Johnstone fill in the extra credits. He said Mr. Johnstone would not do it for me. Nothing was said about examination questions on these additional subjects (English grammar, composition and rhetoric) nor were examination papers in those subjects ever filled out by me. Mr. Owen stated that I would have to leave my certificate with him anyhow, so it would be in the envelope when Father Spalding, who, I was told, was the superintendent of Loyola University, came to check up the students' credentials.

I attended most of the classes from the time I enrolled, October 29, until January 16, when I secured my amended certificate from the Brooks Classical school.

COLLEGE CLEANED UP FOR AN INSPECTION

Thursday, December 18, when I got to the school I noticed that everything was unusually clean. The halls had been carefully swept, the floors had been scrubbed, and clean white cloths had been placed over the cadavers in the dissecting room. This was quite contrary to the usual condition of things. The floor of the freshmen's lounging room in the basement was usually littered with paper, burned matches and cigarette stubs; but all had been carefully cleaned up. It was rumored, and so turned out, that the A. M. A. man was coming to inspect the college, and everybody seemed to be on the jump.

MY CREDENTIALS ARE O. K.'D

January 6, 9 and 12 I called at Mr. Owen's office to see if I could get back my certificate and make sure of the additional credits, but each time I was put off with the excuse that I could not have it as the envelope containing my preliminary credentials had not been O. K.'d. Wednesday, January 14, I again called at Mr. Owen's office, and he told me that the extra grade had been filled in by Mr. Johnstone and that the credentials had been O. K.'d by Father Spalding, whereupon he pointed to an O. K. written on the envelope containing my certificate. By changing the wording of my application blank, therefore, and by securing for me, through questionable means, a certificate of having passed, as required by law, an examination covering all the branches of a high school course, the certificate having been signed by a county superintendent of public instruction, in the presence of a notary public, Mr. Owen evidently succeeded in making Father Spalding believe that I held satisfactory credentials of preliminary education.

Affidavit of County School Superintendent

STATE OF Illinois }
County of Kenosha }

I, John J. Kenyon, of lawful age, being duly sworn, depose and say that I am the County Supt. of Schools, Kenosha Co., located at Salvoid, Ills., in the State of Ills. That at the request of H. A. Cowgill residing at Chicago, Ill. who is an applicant for admission to examination before the State Board of Health for license to practice medicine and surgery, I made a special written examination of said applicant for the purpose of enabling him to make such application, that the dates and place of said examination and time consumed therein are as follows:

At Room 1017 Schiller Building, Chicago, Illinois, Nov. Eighteen 21st and 22nd 1913 and the time occupied in said Examination was 8½ hrs.

That the grade of proficiency actually shown and fairly and justly earned by said applicant upon said examination on the scale of 100 is, in each study as follows: (Grades must average 75 per cent.)

English Grammar and Composition		Physical Geography	87
Rhetoric		Physiology and Hygiene	87
Algebra	90	French	
Plane Geometry	85	German	88
Physics	92	Latin	87
History including Political Econ. and Civics	90	Spanish	
English Literature	90	General History	91
Medieval and Modern History	85	Civil Govt	81
English History	87		
Zoology			
Botany	90		
Chemistry			

I further state that said examination was wholly conducted by myself in person and at the times and places above set forth.

assistant

John J. Kenyon
Co. Supt. of Schools

Subscribed and sworn to before me, this 18th day of December, 1913

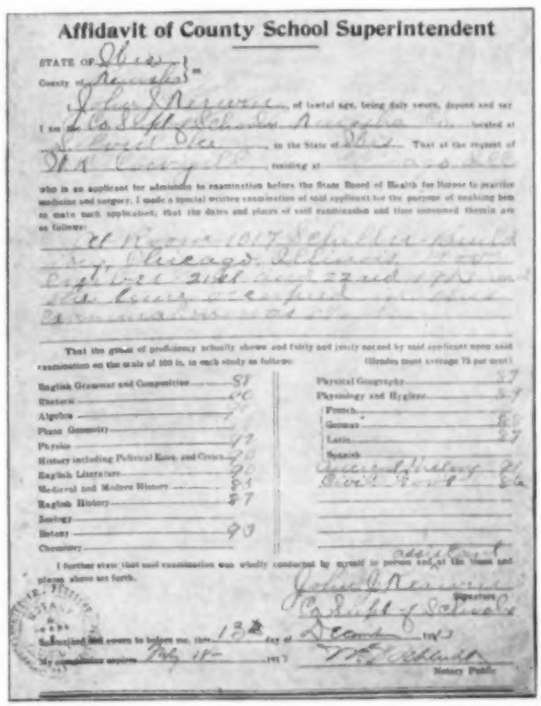
My commission expires May 11th, 1917

Notary Public

Fig. 5.—A reproduction of the certificate secured after a make-believe examination had been gone through with. As will be seen, no grades are entered for the two subjects, English grammar and composition and rhetoric. Note also that the certificate has been sworn to in the presence of a notary public. Compare this with Figure 6.

I GET MY AMENDED CERTIFICATE

I tried repeatedly to get possession of the amended certificate and finally succeeded on Jan. 16, 1914. (See Fig. 6). On giving me the certificate Mr. Owen said he did not have time to make a copy of it, but that I could make a copy of it when I got home and send it to him. I signed a receipt, and his stenographer gave me the certificate. On examining it I found that grades for English grammar and composition and for rhetoric had been filled in—for subjects in which I had not even gone through the form of an examination. It is apparent that Mr. Owen was fully aware that the changes had been made, as they were made at his request. These marks were placed on the certificate between the time I gave the certificate to Mr. Owen, Wednesday, December 17, and when I received it back on Friday, January 16. (See Fig. 4.)



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At Room 1017 Schiller Building, Chicago, Illinois, Nov. Eighteen 21st and 22nd 1913 and the time occupied in said Examination was 8½ hrs.

That the grade of proficiency actually shown and fairly and justly earned by said applicant upon said examination on the scale of 100 is, in each study as follows: (Grades must average 75 per cent.)

English Grammar and Composition	88	Physical Geography	87
Rhetoric	80	Physiology and Hygiene	87
Algebra	90	French	
Plane Geometry		German	88
Physics	92	Latin	87
History including Political Econ. and Civics	90	Spanish	
English Literature	90	General History	91
Medieval and Modern History	85	Civil Govt	81
English History	87		
Zoology			
Botany	90		
Chemistry			

I further state that said examination was wholly conducted by myself in person and at the times and places above set forth.

assistant

John J. Kenyon
Co. Supt. of Schools

Subscribed and sworn to before me, this 18th day of December, 1913

My commission expires May 11th, 1917

Notary Public

Fig. 6.—The same certificate as shown in Figure 5 as it appeared when it was returned to me by the Registrar of Bennett Medical College. Between the time I gave it to him (Dec. 17) and the time the certificate was returned to me (Jan. 16) grades had been filled in for the two subjects, English grammar and composition, and rhetoric. I had not even gone through the form of an examination in these two subjects.

Questions and Answers Reproduced

Questions with the answers added were supplied for fourteen subjects. The paper on physiology has been reproduced in Figure 1. Below are printed the first question and answer of seven subjects.

GEOMETRY

1.—Define and give an example of a postulate and of an axiom.

A postulate is a construction admitted to be possible. Example: Let it be granted that a circle may be described with any center at any distance from that center.

An axiom is a statement admitted to be true without proof. Example: The whole is greater than its part.

PHYSICS

1.—What is specific heat? What is Dulong and Petit's law in regard to the connection between specific heat and atomic weight?

Specific heat is the amount of heat required to raise the temperature of any substance through one degree as compared with the amount of heat required to raise the temperature of the same weight of water through one degree.

Dulong and Petit's law states that if the atomic weights of all the elements be multiplied by their specific heats, the result is a constant.

AMERICAN HISTORY

1.—Speak of the differences in ideas concerning the constitution that the federalists and antifederalists had.

The federalists endorsed the Constitution but wished to read into it more power for the Central government, while the antifederalists accepted it with limitations and were anxious to restrict the power of the Central government within the narrowest bounds.

given about twenty-five sheets of yellow paper similar to that

certificate from the Brooks Classical school.

BOTANY

1.—What are the organs of vegetation?

Root, stem and leaves.

PHYSICAL GEOGRAPHY

1.—What is the "fall line" and why are so many cities situated on it?

The "fall line" is an imaginary line running parallel to the Atlantic Ocean from Pennsylvania southward. It marks the place where the Continental block suddenly dips, and lands between it and the sea being low-lying. Cities are situated upon it because all rivers crossing it have falls and thus supply power. The rivers are navigable up to this line and the cities are seaports and at the same time have easy communication with the interior.

ANCIENT HISTORY

1.—Write briefly of the Assyrian Empire.

The Assyrian Empire was founded in 1250 B. C. It rapidly increased in power and subjugated Babylon, Phoenicia, Judaea and Egypt. The Assyrians had a long line of warlike kings, among whom Tiglath Pileser, Sargon and Sennacherib were the most important. They were a military people and cared little for art, science or literature. Their architecture and religion were both borrowed from the Chaldeans. They were a Semitic people and their language resembled that of the Hebrews. Their chief city was Nineveh, situated on the east bank of the Tigris River.

CIVIL GOVERNMENT

1.—Describe two important institutions of our national government that are not provided for in the constitution.

Two important institutions of our national government not provided for by the constitution are the President's cabinet and the national conventions for nominating presidential candidates. The President's cabinet consists of nine officers, each of whom is at the head of a department, while collectively they serve as an advisory board for the President.

The nominating conventions of the two great political parties are made up of delegates from the various states, each state being entitled to twice as many delegates as it has members of congress. The delegates are chosen by state conventions.

Book Notices

BERIBERI. By Edward B. Vedder, A.M., M.D., Captain Medical Corps, U. S. Army. The Cartwright Prize of the Alumni of the College of Physicians and Surgeons, Medical Department of Columbia University, New York, for 1913, and published by Permission of the Surgeon-General of U. S. Army. Cloth. Price, $4 net. Pp. 427, with 51 illustrations. New York: William Wood & Co., 1913.

This book presents what is known in regard to beriberi. The history of the disease, its distribution, pathologic anatomy and clinical features, its relation to rice and its etiology as revealed by recent investigations, infantile beriberi, ship beriberi, epidemic dropsy, and theoretical and practical considerations are the principal subdivisions. There are an extensive bibliography and good indexes. Beriberi being "a disease resulting from faulty metabolism, usually only seen in those persons who eat rice as the staple article of diet" and caused by the "deficiency of certain vitamins in the food," Captain Vedder urges the appointment of an international commission to discuss the ways and means necessary to abolish the use of highly milled or polished rice, which no longer contain the necessary vitamins. As the disease is preventable by such seemingly simple means, this recommendation certainly is a sensible one. The book is heartily commended to all who are interested in beriberi and similar diseases. If a new edition is wanted the author should revise the book carefully with a view to improving the literary form.

A LABORATORY COURSE IN PHYSIOLOGY. By Walter B. Cannon, A.M., M.D., George Higginson, Professor of Physiology in the Harvard Medical School. Second Edition. Cloth. Price, $2.50. Pp. 137. Cambridge: Harvard University Press. 1913.

This is an outline of carefully selected and arranged experiments for a laboratory course in physiology, especially for medical students. The ideals and aims of laboratory instruction are well stated by Dr. Cannon in these words: "That the student may receive the greatest benefit from the discipline of his study, it is essential that he be placed as far as possible on his own resources. He should be required to make and record his own observations, draw his own conclusions, and be urged to suggest further experiments to test these conclusions." The author does not strictly follow this ideal in the book, because in many instances the experiments are outlined in such great detail that nothing is left for the student save the mechanical work. The outline contains no experiments or demonstrations on the organs of internal secretion. It would seem that a laboratory course in physiology in all our first-class medical schools ought to include some work in this important chapter of physiology.

HANDBUCH DER SPEZIELLEN PATHOLOGIE DES HARNS. Von Dr. Med. Ferdinand Blumenthal. Universitätsprofessor in Berlin. Paper. Price, $4.25. Pp. 492. New York: Rebman Company, 1913.

This excellent work is a continuation of the author's "Pathologie des Harns am Krankenbett," published about ten years ago. It is rather too large and extensive for the general student or practitioner, but should be found a valuable addition to the library. The author has not only set himself the task of discussing, both from the practical and theoretical points of view, the many variations to be found in the urine in widely diversified conditions of a local or general nature, but has also elaborated the diagnostic, prognostic and therapeutic deductions to be drawn therefrom. That he has succeeded admirably in carrying his work to a satisfactory completion is evidenced by perusal of the book. The subject-matter is presented in a clear, forceful and comprehensive manner, while the arguments and conclusions are convincing. Bibliographic references are numerous, but it is to be noted that the rather voluminous work of American workers on the various subjects connected with the urine has been largely overlooked. This is, however, not a personal failing of the author, but is, rather, a German custom. There need be no hesitancy in recommending this book to the special worker in this field, as it covers the ground in a thoroughly satisfactory manner and gives an enormous mass of detail. For the general worker it should prove valuable as a reference work.

THEORIE UND PRAXIS DER INNEREN MEDIZIN. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Erich Kindborg. Volume III. Cloth. Price, 13 marks. Pp. 751, with 75 illustrations. Berlin: S. Karger, 1914.

In this volume Kindborg brings to a successful conclusion his attempt to combine the needed knowledge of the fundamental medical sciences with the clinical description of disease. The account of diseases of the kidneys is preceded by a considerable treatise on the examination of the urine. The author even includes the methods of cryoscopy and the determination of the electrical conductivity of the urine, which he acknowledges are too time-consuming and technical for use by the general practitioner. The subject of cystoscopy is illustrated by cuts from actual photographs showing the condition of the bladder in various diseases. The examination of the blood is fully described and well illustrated. The general character of the articles corresponds to that of the first two volumes. The whole forms a valuable handbook for the German reader.

Medicolegal

Having Syphilis Not Conduct Unbecoming an Officer

(People ex rel, Langdon v. Waldo, Police Commissioner (N. Y.), 143 N. Y. Supp. 818)

The Supreme Court of New York, Appellate Division, Second Department, says that this relator was dismissed from the police force of the city of New York on a finding of guilty on charges of conduct unbecoming an officer. The specification was that he had contracted syphilis at some time in the past, and was then affected with it. There was proof in the record that syphilis is an infectious disease, and the court may take judicial notice that it may be contracted by a person entirely innocent of sexual commerce with one tainted therewith. No attempt was made to show that the relator contracted directly this disease as the result of immoral practices or of loose conduct. On the other hand, he was not suffered to testify that such was not the cause of his affliction, if that ailment was established to the satisfaction of the trial

commissioner. For aught that appeared, the punishment of dismissal was inflicted for innocent misfortune, not conscious misdoing. If the relator was tainted with the disease to the peril of present association with other members of the force, that was a matter for physicians to regulate. The determination is annulled, and the relator is reinstated, with $50 costs and disbursements.

Manslaughter Through Fasting Treatment or Withholding of Food—Admissible Evidence

(State vs. Hazzard (Wash.), 134 Pac. R. 514)

The Supreme Court of Washington affirms a judgment of conviction of the defendant of manslaughter. The information charged that she did, on Feb. 28, 1911, and on divers days between that date and May 20, 1911, wilfully, etc., kill one Claire Williamson by depriving and keeping from her all food and sustenance except the juices of fruits in quantity not to exceed two fluidounces daily, and the broth of vegetables not to exceed eight fluidounces in quantity daily on said days and dates, said food not being sufficient in quantity and quality to sustain life in the said Claire Williamson's body, she being in the care, custody and control of the defendant, etc.

Claire and Dora Williamson, 34 and 37 years of age, respectively, answered an advertisement of the defendant, and the former conducted correspondence with the defendant during which the latter forwarded to her a book on "Fasting for the Cure of Disease" written by the defendant, and also a pamphlet giving an account of the defendant's sanatorium in Seattle. The women finally decided to go to the sanatorium and take a course of treatments, for which they were to pay $60 a month. They were then in reasonably good health. Dora suffered occasionally from rheumatism and indigestion, and Claire from a displacement of the uterus which would readily respond to treatment. The treatments consisted in massage or rubbing, the abstaining from food, except fruit-juice, asparagus water and vegetable broth with a small bit of butter therein about as large as the thumb-nail, a warm bath practically every day, and an enema of from four to six quarts of warm water each day. The women constantly grew weaker and more emaciated. During this time the defendant repeatedly inquired into their family and business affairs, their income, etc., and induced them to give up their papers, money and jewelry for safekeeping by the defendant. Claire Williamson, with the help of defendant's attorney, executed a codicil to her will bequeathing an annuity to defendant's sanatorium and signed an order for the amount of her bank balance. Less than a month later she died. Both women at that time weighed less than half as much as at the beginning of the treatment. When they asked for food the defendant told them that the poison was not yet entirely out of their systems, and that to take food might result fatally.

The court holds that the information was legally sufficient to charge a crime. It did not charge the crime to have been committed on different days, but charged continuing conduct between the dates mentioned producing death at a certain time. Neither was the information bad for failure to charge a legal duty on the defendant to furnish food. The defendant was charged with the crime of murder in the first degree, in that with premeditated design she did kill and murder Claire Williamson by the depriving and withholding from her of food and sustenance, except, etc., which produced death. This was not the charging of a crime by failure to perform a duty; but it was the charging that the crime was committed by an affirmative positive act. Under such a charge it was not necessary to allege a duty to furnish food. But if such an allegation were necessary, it was plainly found in the information, wherein it was said that Claire Williamson was in the care, custody and control of the defendant, who had undertaken to care for her and to provide sufficient food and sustenance to sustain life.

Nor was there error in admitting evidence showing transactions of the defendant with Dora Williamson, the treatment she received, and the effect thereof. The evidence as to Dora was competent for the purpose of showing a plan or scheme on the part of the defendant to effect the death of both of the girls. The proof of such plan or scheme would afford grounds for the inference that the defendant was actuated by a criminal intent. Besides, the two girls were together when the contract for the treatment was made; they received the same treatment, occupied the same suite of rooms, and were so intimately associated as to make the treatment which the two girls received substantially one transaction. Where the conduct complained of constitutes one continuous transaction, evidence of all the facts and circumstances connected therewith is relevant.

Certain physicians, in answer to hypothetical questions, were permitted to testify as to the degree of medical skill and care used by the defendant in treating the deceased. Complaint was made of this testimony by the defendant, because it was contended that it tended to prove the crime of malpractice, while the defendant was charged with murder in the first degree by the withholding of food. The defendant was charged with murder in the first degree by the withholding of food with the premeditated design to produce death. Within that charge were included two lesser crimes, that of murder in the second degree, and manslaughter. If the defendant did not withhold food with a premeditated design, but did withhold food through failure to exercise that degree of care which the law imposes on one practicing her profession, then she would not be guilty of murder in the first degree, but would be guilty of a lesser crime. The evidence, therefore, was admissible under the charge as laid in the information.

Society Proceedings

NATIONAL CONFERENCE ON RACE BETTERMENT

Held at Battle Creek, Mich., Jan. 8-12, 1914

Under the presidency of DR. STEPHEN SMITH, New York

DR. J. H. KELLOGG, Battle Creek, Mich.: The object of this conference is the advancement of human welfare. The questions to be discussed do not relate to sect or section, finance or politics. The purpose of the conference is not to formulate conclusions or propagate doctrines, but to raise questions of world-wide significance, and to set in operation methods of inquiry which it is hoped will lead to a disclosure of facts of tremendous importance.

The Basic Principles of Race Betterment

DR. STEPHEN SMITH, New York: The objects of the conference are: (1) to assemble evidence as to the extent to which degenerative tendencies are actively at work in America, and (2) to promote agencies for race betterment. This includes everything which affects unfavorably the normal development of the human race. The second object opens a wide field, as these agencies are innumerable. The question as to the effectiveness of any agency will cause great diversity of opinion unless we have a common object in view, and that we have not a common object in our charitable efforts is generally recognized. Ignorance is the greatest obstacle to success in the treatment of the defective and dependent. Two methods of preventing the propagation of degenerates are practiced—sterilization and segregation. These methods are necessarily limited in application.

Prevention of Arteriosclerosis

DR. LOUIS F. BISHOP, New York: Never has the study of arteriosclerosis seemed to be of so great importance as at present, because never before has this disease played so important a part in undermining the efficiency and shortening the lives of workers. The mortality from arteriosclerosis is more than double what it was thirty years ago. In 1910, one hundred thousand persons died of circulatory disease in this country. Arteriosclerosis is a disease of the whole body, characterized by irritation and destruction of the cells, which are replaced by connective tissue. It is caused by a great

nervous strain, an infectious disease, a surgical infection, or some form of acute food poisoning. From that time the cells are sensitive to proteins. So long as the supply of the special protein continues, the irritation of the cells is kept up, leading to destruction and progressive sclerosis. Impairment of function follows, greater demands are made on the capillary organs, and eventually there is development of the picture of chronic Bright's disease or apoplexy. If at any time it is possible to remove the offending protein the man is capable of being well. The prevention of arteriosclerosis depends on the avoidance of these causes, on the study of food relations and on the institution of a strict regimen. Arteriosclerosis is usually discovered by a life-insurance examiner or a physician who has been treating the patient for some other ailment. It is seldom the result of a single cause. We should adopt the European custom of a combination of vacation and visit to a cure resort. Race betterment must always be a matter of the improvement of the individual. Arteriosclerosis is not a neighborhood enemy—it is your enemy.

The Significance of a Declining Death-Rate

MR. FREDERICK L. HOFFMAN, Newark, N. J.: The present estimated population of the world is approximately 1,750,000,000, equivalent to a density of 34 persons per square mile. The actual annual increase in population is approximately 13,000,000, or at the rate of 7.7 per thousand. The corresponding rate of annual population increase for the United States is not quite 20 per thousand, and the corresponding density 32 persons per square mile. The world's population is increasing rapidly, because of a decline in the death-rate which more than offsets the decline in the birth-rate. During the last thirty years, the general death-rate of the principal civilized countries has declined 24 per cent., from 23 per thousand to 19. The decrease has been most pronounced in the Netherlands, where the present death-rate is only 63 per cent. of the rate prevailing thirty years ago. The corresponding figure for the registration area of the United States is 76. In 1880 the estimated death-rate of the registration area was not quite 20, whereas for 1912 the rate was a little less than 14. A corresponding decrease has been observed for all the principal large cities of the civilized world. During the French administration of the Panama Canal Zone, the death-rate of employees was 61 per thousand, which under American administration has been reduced to 9, and achievement probably without a parallel in sanitary history. The death-rate of non-native British officers in West Africa has declined since 1905 from 28 to 12 per thousand.

In contrast to a remarkable decline in the tuberculosis death-rate in the United States during the last thirty years, there has been a persistent increase in the death-rate from cancer, which to-day is perhaps the most serious menace to the health and longevity of the adult population. A declining death-rate accelerates growth in population, which in turn necessitates conservation of food-producing resources; improvements in agriculture; reduction in economic waste and utilization of waste products; rational control of marriage, fecundity and divorce; physical training of the young and medical supervision of schools and factories; improvements in local health administration, and coordination of health-promoting public and private agencies and institutions. If the prolongation of life is to be really worth while, the present disharmonies of human existence must be eliminated.

Need of Thorough Birth Registration for Race Betterment

MR. CRESSY L. WILBUR, Washington, D. C.: Vital statistics are the bookkeepers of health, and yet in the large proportion of this country the registration of deaths is so useless that we cannot have any statistics in regard to it. Since 1900, however, we have been making a good deal of progress as regards the registration of deaths; but in birth registration there is rather a different picture. The only states in which the registration of births was practically complete in 1911 were Massachusetts, Rhode Island and Connecticut. Michigan had no vital statistics until 1898, when the new death-registration law went into effect. The birth-registration law was not passed until 1905, and went into operation in 1906. If we believe in ourselves as Americans, we should be apprehensive at times about the day when the difference between the birth-rate and the death-rate is blotted out.

NEW YORK NEUROLOGICAL SOCIETY

Stated Meeting held Dec. 2, 1913

(Continued from page 407)

A Case of Brain Neoplasm with Unusual Features

DR. LOUIS CASAMAJOR: A negress, aged 14, was admitted, March 7, 1911, with the history of failing sight and hearing, and partial inability to use the right arm and leg. Her symptoms dated back several months and were growing progressively worse. The patient's family history was negative. With the exception of measles in infancy, the child had always been in good health until August, 1910, when she began to complain of headaches, and became cross-eyed. Glasses were prescribed and her symptoms disappeared within six weeks.

In November, 1910, it was noticed that the child slept more than usual and complained of occasional headaches. A month later there was some loss of function in the right arm; the fingers were stiff and numb, and within a fortnight she began to complain of weakness of the right knee and stiffness of the leg. Subsequently, her sight and hearing became impaired and grew progressively worse. Physical examination showed a dull, undersized negress, with a well-marked right hemiplegia, with increased reflexes on this side but no Babinski. An examination of the eyes showed papilledema of about 3 or 4 diopters on each side, with beginning atrophy. Vision was 20/70, right and left. The visual fields were normal; the Wassermann test was negative, as was also the urine.

Operation was performed, March 11, 1911, by Dr. Charles A. Elsberg. A right subtemporal decompression showed that the intracranial pressure was markedly increased. The operation was followed by a hernia cerebri, which grew to the size of a croquet-ball, and the patient's condition became progressively worse. She gradually became totally blind, and could hear only very loud sounds. Her right hemiplegia progressed, and by June, 1911, she was practically bedridden, blind and deaf. In September, the mother, who objected to the large hernia cerebri chiefly on cosmetic grounds, began bandaging the head tightly. With this, the patient immediately began to improve. The hernia became smaller and the child much brighter. The sight and hearing gradually returned, but the hemiplegia remained about the same, and at present the girl is able to see as well as before the operation, although the optic disks look very much atrophied. There is no deafness of any account. The hemiplegia is evident, the right arm being more affected than the leg. She walks with a slight right limp, while the right hand is contracted and useless. The decompression opening is soft, and there are no evidences of any increased intracranial pressure.

DISCUSSION

DR. B. SACHS: More than ten years ago I saw a case in which operation had been performed to relieve symptoms of intracranial pressure similar to those in the case shown by Dr. Casamajor, which were attributed to the presence of a neoplasm. When the skull was trephined and the dura incised, a vascular tumor of enormous size presented itself. On account of the patient's condition, no attempt was made to remove the growth. The patient recovered from all her symptoms, except that there was no improvement in the double optic atrophy, which had existed prior to the operation.

DR. I. ABRAHAMSON: There was possibly a cyst near the ventricle, which, aided by the pressure applied, may have emptied into the ventricle; or else a localized posterior basic serous meningitis, with retention of fluid in the larger cisterns; here the increased pressure from without was the means of reestablishment of the circulation of the cerebrospinal fluid.

DR. FOSTER KENNEDY: In spite of the good results in this case I do not think that pressure on these hernial protrusions can be regarded as a safe therapeutic measure.

A Case of Muscular Atrophy on a Syphilitic Basis

DR. L. CASAMAJOR: The patient was a man aged 28, with paralysis and marked atrophy of the muscles of the right shoulder-girdle and arm. The patient's previous history was negative, except for a syphilitic infection six years ago, which was insufficiently treated. About the end of September, 1913, he noticed that his right arm and shoulder were getting weak. He first had difficulty in reaching objects over his head. This weakness gradually increased, and in the middle of November he was compelled to give up his work, as he could no longer raise the arm.

Physical examination, November 24, showed a well-built and nourished young man with marked atrophy of the right arm and shoulder-girdle muscles. There was total flaccid paralysis of the deltoid and other shoulder-girdle muscles. Extension of the elbow was fairly strong, but flexion was practically lost. The forearm and hand muscles were much weaker on the right than on the left side. Measurements showed that the right arm was 1 inch smaller in circumference than the left. The reflexes were much diminished in the right arm. There was no sensory loss. The electric reactions showed a partial reaction of degeneration in the right shoulder-girdle muscles, and the other muscles of the right arm were electrically hypo-excitable. There were no abnormal signs in the rest of the body.

Serologic examinations gave the following results: blood-serum, Wassermann positive; cerebrospinal fluid, Wassermann positive; globulin normal; cells, 149 lymphocytes per cubic millimeter. The patient has made slight improvement under active antisyphilitic treatment.

DISCUSSION

DR. FREDERICK TILNEY: I have seen two cases of muscular atrophy with positive Wassermann reactions in the blood and spinal fluid. In both instances the atrophy was progressive. The trouble started in the shoulder-girdle, and then extended to the biceps and triceps and to the muscles of the forearm and hand. One of the cases, after eight years, showed distinct involvement of the sternocleidomastoid and trapezius, and the man now has the characteristic deformity resulting from the involvement of those muscles. In one of the cases, that of the longest duration, the muscles showed complete reaction of degeneration, while in the others there were some indications of degenerative changes in the muscles.

SOUTHERN SURGICAL ASSOCIATION

Twenty-Sixth Annual Meeting, held at Atlanta, Ga., Dec. 16-18, 1913

(Continued from page 404)

End-Results in Operations for Cancer of the Breast

DR. E. S. JUDD, Rochester, Minn.: Results in operations for cancer of the breast are as good as, if not better, than results in operations for cancer elsewhere. The prognosis in younger persons who received the benefit of an early operation was better than we had expected. The prognosis is variable in a certain percentage. An extensive external involvement may give a fair prognosis, while a slight external lesion may terminate early from internal metastasis. Metastases may occur many years after the operation, though in the great majority of instances they will appear in the first few years, if at all. The difference between the percentage of patients living over three, five and ten years is not so great as might be expected, but this is because most patients who die of the disease die within the first three or at least the first five years. Five years without recurrence means a very small probability of trouble after that.

Hydrocephalus Internus: Lumbar Drainage

DR. HERBERT P. COLE, Mobile, Ala.: By a meningocele sac formed above a spina bifida I attempted to drain a case of hydrocephalus internus through the sac into the lumbar muscles. The drainage was maintained for two weeks without leakage and with relief of the pressure symptoms. The child died on the twenty-sixth day, from obstruction in the sac.

Surgery of the Pancreas

DR. R. C. COFFEY, Portland, Ore.: The peritoneum must be brought to the field of operation in all direct pancreatic surgery. Fat necrosis can occur only when the pancreatic fluid is delivered directly into the extraperitoneal fat. Pancreatic fluid is no more dangerous than bile to the peritoneum, provided ample drainage is used to deliver it to the surface at once. The pancreatic duct seems to depend on contiguous pancreatic tissue for its nutrition, and, therefore, is not adapted to direct implantation into the intestine. The cut end of the pancreas, carrying an open duct, may be implanted into a loop of intestine with the same assurance that an intestinal anastomosis is made. There is a marked tendency of the pancreatic ducts to reestablish continuity around a gap or an obstacle, provided the pancreatic fluid is temporarily delivered to the surface. If the head of the pancreas is removed and the open end brought to the surface, a pancreatic fistula results which usually closes in a few weeks. The secreting portion of the gland is rapidly destroyed, leaving a fibrous cord which contains many islands of Langerhans.

Pyloric Stenosis in Infants

DR. JAMES F. MITCHELL, Washington, D. C.: My experience has been limited to three cases. All came to operation early, only one patient having reached any degree of emaciation, weighing 5 pounds, 6 ounces, a loss of over 3 pounds since birth. Two were operated on at 7 weeks and the third at 6 weeks of age. A posterior gastro-enterostomy was done in each instance. The pylorus always presented the typical stony hard, olive-shaped tumor apparently with occlusion of the lumen. They are now healthy, normally developing children, three and one-half years, two and one-half years, and eight months after operation. I have secured a roentgenogram of the second case which shows, after two and one-half years, that bismuth is leaving the stomach through the stoma and none by way of the pylorus.

Excision of the Clavicle and First Rib for Malignant Disease

DR. R. E. FORT, Nashville, Tenn.: Primary sarcoma of the clavicle is a rare condition, and the earlier the diagnosis and the more radical the treatment, the better the chances for complete recovery. Partial excision of the clavicle or first rib should not be practiced for malignant disease. The danger of local or general metastases is very great, and as division of the bone increases this hazard, excision should be made with the bone intact. Because of the favorable results obtained in the few cases of sarcoma of the clavicle and the larger number of sarcomas of long bones, it is advisable to use the mixed toxins of erysipelas and *Bacillus prodigiosus* for two or three months after operation. Under modern aseptic conditions the mortality for excision of the clavicle and excision of the first rib should be comparatively small, and considering the fate of the patients who are denied surgery, the opportunity of relief by surgery is mandatory.

Congenital Tumors of Neck

DR. C. E. CALDWELL, Cincinnati: Critical study of these tumors has shown that not all congenital tumors of the neck are branchiogenic. From the contributions of Savelli and Florence Sabin, it seems that the evidence adduced proves that the lymphatic cavities described by Veau, and the jugular sacs described by Sabin, are but different interpretations of the same histologic facts, and that in these lymphatic cavities or perhaps more accurately speaking, jugular sacs, we have the fetal *Anlagen* which result by arrested evolution, in the multilocular serous cysts, the nature and disposition of which correspond most accurately with that of these sacs. The absence of a true endothelial investment of the sacs or cysts may be explained on the theory of atrophy from intracystic pressure.

Significance of Pain in the Right Iliac Fossa in Young Women

DR. RANDOLPH WINSLOW, Baltimore: I have come to believe that in young women, unless the symptoms of appendicitis are frank and clear, the condition is probably something else. Pain and tenderness in the right side, without rigidity, ele-

vation of temperature and leukocytosis is usually not appendicitis. Again apparently severe and long-continued pain in the right side in girls is more likely to be neurotic than appendiceal. Pain may also be reflected from the pelvic organs or some of the other viscera, and the primary seat of the disturbance might be determined by a more careful examination. I think that we frequently operate too hastily on a diagnosis of appendicitis, without considering sufficiently the other possibilities in the case.

Postoperative Acute Dilatation of the Stomach

DR. E. P. HOGAN, Birmingham, Ala.: I have used the following treatment in my own cases: The stomach-tube is inserted and the stomach emptied of all contents and irrigated with normal salt solution until the water returns clear. The patient is placed in the horizontal right lateroprone position. This position is in every way convenient and comfortable. Continuous proctoclysis is given. Everything by mouth is excluded until symptoms are entirely relieved. From 1/60 to 1/30 grain of strychnin and 2 grains of spartein are given every four hours. If the patient is not prostrated and is nervous and restless, sufficient morphin is given to produce comfort and sleep. In some cases it may be necessary to repeat the washing of the stomach and morphin from four to twelve hours later. It should be repeated as often as indicated.

Extensive Intestinal Resection

DR. RAYMOND C. TURCK, Jacksonville, Fla.: I removed 10 feet, 10¾ inches of ileum, together with the cecum, and the ascending and part of the transverse colon because of dense adhesions, numerous partial obstructions, fecal fistula and multiple sinuses. The work was done in three stages. Serious metabolic disturbances and diarrhea followed. Studies of the metabolic processes, eight months after the ileum resection, showed that a probable compensatory hyperplasia of the intestine with consequent compensatory production of enterokinase had taken place, enough, with a regulated diet, to digest thoroughly and assimilate carbohydrates and a moderate amount of fats, but not enough to care for proteins fully. A measured diet, adjusted according to caloric values, and through metabolic examination of feces controlled the diarrhea and caused a decided gain in strength and weight. Medication had no effect on the diarrhea.

Catgut as a Skin Suture

DR. WILLIAM PERRIN NICOLSON, Atlanta, Ga.: The method of closing wounds advocated is the continuous running suture of 00 catgut placed at intervals of from ½ to ¾ inch and passing beneath the skin into the subcutaneous fat, which permits the wound line to fall into perfect apposition, while at the same time the edges can be pulled apart at any point between the stitches. This permits of drainage directly between the wound edges into the dressings, doing away with the necessity for a drain, and the blood-serum drying in the gauze next to the wound makes a perfect aseptic covering, practically impervious to air and water. Such wounds may be left without disturbance until healing is complete, when the dressing is removed permanently. All classes of wounds, including scalp-wounds, hernia operations, breast amputations, and kidney operations, are closed thus with chromic catgut and left until healing is complete. The catgut employed is that sterilized without chemicals, as it has been found that those sutures which contain iodin and mercurial salts have proved irritating to the tissues immediately surrounding the suture.

Conservative Treatment of Undescended Testicle

DR. ALEXIUS MCGLANNAN, Baltimore: The important questions to be decided regarding the conservative treatment of undescended testicle are, first: Is the non-descended testicle worth saving? Second, is it technically possible to bring such a testicle into the scrotum in a manner that will preserve its vitality? A study of sixteen cases in which I operated, the histology of seven undescended testicles removed by several other operators, and the literature on the subject proves that an affirmative answer should be given to both questions.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January, LXIX, No. 433, pp. 1-204

1 *Pharmacologic Action of Ecbolic Drugs. C. C. Lieb, New York.
2 *Uterine Fibroids. Their Relation to Tumors of Thyroid. C. C. Barrows, New York.
3 *Analytic Study of Pelvic Inflammatory Disease. H. H. Cummings, Ann Arbor, Mich.
4 Serology of Pregnancy and Cancer. H. Schwarz, St. Louis.
5 *Acute Intestinal Strangulation Caused by an Abnormally Misplaced Appendix. J. A. Lyons, Chicago.
6 *Operative Treatment of Mammary Carcinoma. C. E. Ruth, Des Moines, Ia.
7 Puerperal Infection due to Gas-Forming Bacteria. E. Marvel, Atlantic City.
8 Omentocolopexy. H. W. Longyear, Detroit, Mich.
9 Training of Auxiliary Expulsory Muscles of Labor. G. Baughman, Richmond, Va.
10 Lumbar and Sacral Backache in Women. D. W. Prentiss, Washington, D. C.
11 Treatment of Uterine Retrodisplacements in Pregnant and Non-Pregnant Women. T. E. Neill, Washington, D. C.
12 Diagnosis of Mental Deficiency in Infancy and Childhood. H. H. Donnally, Washington, D. C.

1. **Pharmacologic Action of Ecbolic Drugs.**—According to Lieb ergot owes its pharmacologic action to several constituents; of these, ergotoxin alone is specific. Beta-imidoazolyethylamin, parahydroxyphenylethylamin, and the other sympathonimetic amines are products of the putrefaction which occurs during the manufacture of galenical preparations. Each constituent has a distinct pharmacologic action; stimulation of the uterus is characteristic of them all. In obstetrics at least, Lieb claims, no single active principle can replace active preparations of whole ergot.

Extracts of the posterior lobe of the pituitary gland stimulate all smooth muscle. It has been suggested that the active constituent of the infundibulum is the hormone which initiates normal labor. The extract of the posterior lobe of the pituitary is the most reliable ecbolic which the obstetrician has at his command. Its promiscuous employment during labor is strongly condemned by Lieb. Because of the stimulating action of quinin on the isolated uterus it may be employed to induce or strengthen labor pains. The improvement that follows the use of the iso-quinolines in menorrhagia and metrorrhagia Lieb believes is due not to changes in the circulation or in coagulation time, but to a direct action on the uterus. Fluid extract of viburnum stimulates the isolated uterus. Its action in dysmenorrhea is therefore not due to an effect on the uterus but to a depression of the central nervous system.

2. **Uterine Fibroids.**—This paper is a plea for the early removal of all uterine fibroids. Barrows has tried every form of electrical treatment, from the electrolysis of twenty years ago to the Roentgen ray of to-day, and every variety of internal therapy, and he is satisfied that the only correct treatment for these growths is removal.

3. **Pelvic Inflammatory Disease.**—The histories of two hundred patients who have been treated surgically during the last four years in the gynecologic department of the University Hospital at Ann Arbor, for inflammation of the pelvic structures, were studied by Cummings. Gonorrhea leads the list of causes, showing 38 per cent. Sepsis following criminal and accidental abortion, or confinement, accounts for many of the most virulent and fatal cases of pelvic inflammatory disease. The treatment outlined by Cummings, briefly, is: Pelvic infection, like other infections, requires general measures, such as absolute rest, stimulation of the emunctories; locally cold applications give relief. In the acute stages, hot, long-continued vaginal douches hasten the softening of exudates, lessen congestion and relieve pain. When a definite mass can be outlined and pus is undoubtedly present, a posterior colpotomy gives the best results. Many patients return for a radical removal of the involved organs several months after the posterior colpotomy has been done. By that time the inflammation has lost its virulency and the abdominal operation is without incident. However, many women are so greatly relieved that the laparotomy is never performed.

5. **Acute Intestinal Strangulation.**—The distal end of the appendix in Lyons' case was attached to or rather deeply imbedded in the abdominal wall near the umbilicus. Its mesentery was spread out fan-shape, having strong abdominal attachments, just above and to the right of the pubic arch, the appendix and mesentery looking as though they were there attached congenitally. The cecum seemed suspended congenitally in the abdomen, well above the pelvis. In the space between the appendix and the abdominal wall, the intestines were strangulated. They had in all probability gradually entered this space when the patient rested or was sleeping on his abdomen (a position he usually assumed when resting or sleeping), and gradually passed until a large loop of them overhung to the left, and finally filled this space tightly, until strangulation and obstruction were complete.

6. **Operative Treatment of Mammary Carcinoma.**—Since 1904 in every case of excision of the mamma and axillary enucleation Ruth has divided the two pectorals from the clavicle to the lower border of the axillary space, and the outer part of the muscles are then retracted outward and the inner portion retracted inward, thus at once freely exposing the entire axillary space, which is rapidly and easily cleared from above downward under easy sight at every step. The glands and adipose tissues of the axilla are surrounded by gauze as the enucleation proceeds and they are finally removed with the mamma, going wide of all probable deposit.

The inner or thoracic portion of the pectorals is usually removed, as they can serve no useful purpose and may represent a danger, though small. The distal part of the pectorals which were retracted outward are now brought back and carefully sutured to the thoracic wall above and to the latissimus dorsi and teres major below, directly in contact with the axillary vessels and nerves so as entirely to obliterate all dead space and reduce to an infinitesimal amount the cicatricial tissue which will or can form between the elastic pectoral perimysium and the vessels. The advantages claimed by Ruth for this procedure are not alone the complete obliteration of the dead axillary space, but the reduction of the danger of sepsis by prolonged drainage from a non-collapsible space and the preservation of quite or almost perfect power and range of movement. Again, the distal part of the pectorals used in this procedure has never been known to be secondarily involved in carcinoma and so may be used without a particle of hesitation to cover the axillary vessels, obliterate the axillary dead space and eliminate the compression curve of edema, impaired or destroyed function and torturing pain of 31 per cent. of these unfortunate cases.

American Journal of Public Health, New York

December, III, No. 12, pp. 1253-1384

13 Hindrances to Extension of Uniform Methods for Vital Statistics in United States. C. L. Wilbur, Washington, D. C.
14 Possibilities of Reducing Mortality at Higher Age Groups. L. I. Dublin, New York.
15 Sanitary Conditions in Hawaii. G. W. McCoy, Honolulu, T. H.
16 Epidemiologic Survey of All Typhoid Cases Reported to Cincinnati Health Department during 1912. W. H. Peters, Cincinnati, O.
17 Relation of Purity of Water-Supply to Typhoid. J. W. Ellms, Cincinnati, O.
18 Hygienic Condition of Air in Certain Textile Mills with Reference to Influence of Artificial Humidification. H. W. Clark and S. D. Gage, Washington, D. C.
19 Apparent Milk-Borne Outbreak of Paratyphoid. F. G. Curtis, Newton, Mass.
20 New Intercepting Sewer System of New Bedford. W. F. Williams, New Bedford, Mass.
21 Prevention of Typhoid in Rural Districts of Virginia. A. W. Freeman, Richmond, Va.

Archives of Internal Medicine, Chicago

January, XIII, No. 1, pp. 1-176

22 *Circulation in Man: Blood-Flow in Hands in Diseases of the Heart. G. N. Stewart, Cleveland.
23 *Blood-Pressure in Children Showing Orthostatic Albuminuria. M. H. Bass and H. Wessler, New York.
24 *Experiments to Develop More Widely Useful Method of Blood-Transfusion. H. S. Satterlee and R. S. Hooker, New York.
25 *Condition of Blood in Hemophilia, Thrombosis and Purpura. W. H. Howell, Baltimore.
26 Clinical Study of Amylase in Urine. H. R. Geyelin, New York.
27 Clinical Study of Hypercholesterinemia. H. B. Schmidt, Ann Arbor, Mich.
28 *Urea Content of Spinal Fluid with Special Reference to Its Diagnostic and Prognostic Significance. W. B. Soper and S. Granat, New York.
29 Gonococcus Complement-Fixation Test and Analysis of Results from Its Use. B. A. Thomas and R. H. Ivy, Philadelphia.
30 *Comparison of Excretory Power of Skin with that of Kidney Through Study of Human Sweat. H. W. Plaggemeyer and E. K. Marshall, Baltimore.
31 Status Lymphaticus in Adults, Its Clinical Diagnosis and Importance. H. Emerson, New York.

22. **Blood-Flow in Hands in Heart Diseases.**—The smallest flows observed by Stewart in these cases have been associated with marked irregularity of the heart, indicating involvement of the mechanism of the heart beat. In some cases the irregularity was associated with valvular lesions, but in those with the very poorest hand flows there was no evidence that the valves were involved. Three cases were diagnosed as auricular fibrillation, associated with mitral stenosis (and insufficiency). While the flow in all was below normal, it was decidedly greater in one than in the other two, although the patient was much the oldest of the three. His condition was better than that of the other two patients. The ventricle, in spite of its irregular action, was on the whole beating fairly strongly, and was obviously delivering on the average of its beats a fair amount of blood to the periphery. In a case of mitral stenosis and insufficiency and tricuspid insufficiency, in which the heart showed marked arhythmia, in part associated with the respiration (sinus arhythmia), the hand flow was also much below the normal.

Abnormally small flows were seen in a number of cases diagnosed as myocarditis with regular action of the heart, but feeble heart sounds not accompanied by murmurs. In some cases diagnosed as myocarditis without valvular lesion, in which a serious clinical condition had previously existed, very fair hand flows, not much inferior to the normal, were found when the clinical condition had markedly improved. In several cases of mitral insufficiency with good compensation and no signs of impairment of the myocardium, the hand flow was found to be quite up to the normal amount. In one case of mitral stenosis and insufficiency the flow appeared to be even somewhat greater than normal, as if the big, well-compensated heart were discharging more than the usual quantity of blood.

In a case of mitral insufficiency with broken compensation, venous engorgement and edema, but no dyspnea or cyanosis, the hand flow was quite up to the normal. In another case with the same lesions where there was little edema, no shortness of breath except on exertion, and none at the time of examination, the flow was also little if at all inferior to the normal flow, and the reestablishment of compensation was associated with an actual moderate diminution in the hand flow. In a case of mitral insufficiency with physical signs of pericardial effusion a flow not much inferior to the normal was found after the patient had been some time in the hospital and had regained compensation, and when the heart dulness had decidedly diminished. When the patient, two days after leaving the hospital, broke down again and returned with some dyspnea, cough and swelling of the legs, the hand flow was found distinctly below its previous value. In two cases of mitral insufficiency with badly broken compensation, with venous engorgement, edema, cyanosis and dyspnea, the hand flow was much below the normal. In one of these cases a striking diminution occurred a few days before death.

In a case of apparently pure aortic stenosis with perfect compensation, the hand flow was normal in amount. In a case of aortic stenosis and insufficiency, with mitral insufficiency, while there were no signs of broken compensation, the hand flow was somewhat below the normal. In a case of aortic insufficiency and stenosis, with badly broken compensation (great dyspnea, pulmonary edema), the hand flow was greatly diminished.

23. **Blood-Pressure in Children.**—The result of Bass and Wessler's investigation showed that the blood-pressures of children suffering from orthostatic albuminuria differ but little from those of normal children. In spite of the apparent vasomotor insufficiency which many of these children showed, the blood-pressure reactions, both in the upright and recumbent postures and also after exercise, revealed no characteristic anomaly. Nor were they able in any way to correlate the blood-pressure findings with the findings in regard to heart shape and size or pulse-rate. Children with orthostatic albu-

minuria who showed marked cardiovascular symptoms could not be differentiated by means of blood-pressure tests from the remainder of the group.

24. **Blood-Transfusion.**—Satterlee and Hooker have devised a method of drawing blood from the donor's blood-vessel directly into a paraffin receptacle, carrying the blood to the recipient, and injecting it into the recipient's circulation in precisely the same way in which it was obtained from the donor. Excepting the air-contact of its upper surface while in the receptacle, the blood does not touch anything but paraffin during its passage. The paraffin receptacle consists of a thin film of hard paraffin, lining a firm supporting structure. The latter comprises a tubulated glass cylinder, closed at the lower end by an asbestos stopper, through which passes a metal cannula. The upper end of the cylinder passes directly into an aspirating tube containing an air-filter and terminating in a mouth-piece. The use of this apparatus is described.

25. **Condition of Blood in Hemophilia, etc.**—Methods are described by Howell for testing the relative amount of prothrombin and antithrombin in the blood. The application of these methods to hemophilia shows that the blood in this condition is deficient in prothrombin. The antithrombin may be normal or somewhat greater than normal. The characteristic peculiarity of hemophilic blood is its markedly delayed time of coagulation. This peculiarity is explained by the diminution in amount of the prothrombin which results in a relatively excess of antithrombin. The detection of a hemophilic condition of the blood is facilitated by first oxalating the blood and then recalcifying with an optimum amount of calcium. Under these conditions the time of clotting exhibited by normal plasma is very constant (nine to twelve minutes). That of hemophilic blood is greatly delayed.

In patients suffering from spontaneous thrombosis of the veins Howell found evidence of a diminution in the antithrombin of the blood, the prothrombin being normal. It is suggested that this deficiency in antithrombin operates as a favoring, perhaps as a determining, factor in the production of the thrombus. In purpura hemorrhagica and other forms of so-called purpura, no evidence was found of any variation from normal in either the antithrombin or the prothrombin.

28. **Urea Content of Spinal Fluid.**—The ninety-seven cases studied by Soper and Cranat were arranged in four groups: (1) cases in which nephritis could be clinically excluded; (2) cases in which death was caused by uremia; (3) cases in which clinical nephritis did not terminate fatally, and (4) pathological conditions with a diagnosis other than uremia, from which, however, nephritis could not be excluded.

Of cases belonging to Group 1, there were 56. Thirty-three of these cases showed less than 0.05 per cent. urea in the spinal fluid; 15 cases 0.05 to 0.06 per cent.; 4 cases showed 0.067 per cent., 0.071 per cent., 0.08 per cent. and 0.083 per cent., respectively, with no satisfactory explanation, and 4 cases show, respectively, 0.135, 0.179, 0.115 and 0.107 per cent. In none of the last 4 was there sufficient grounds to explain the high urea content.

In the second group, which comprises 21 cases in which uremia was present, the constant high percentage of urea in the spinal fluid was very striking. In 13 cases it was above 0.2 per cent., in 5 cases between 0.1 per cent. and 0.2 per cent., and in 3 cases under 0.1 per cent. Two of the last 3 were, however, above normal.

In Group 3 there were 8 non-fatal cases of nephritis. The 2 patients in this group who showed marked increase in the spinal fluid urea left the hospital with little if any improvement.

Of the 12 cases tabulated under Group 4, 4 presented interesting problems. Unfortunately, necropsies could not be obtained in any of them, and it is therefore impossible to exclude nephritis as a complication or indeed the principal cause of death. The authors conclude that a spinal fluid urea content higher than 0.2 per cent. indicates a severe uremia and a rapidly fatal termination. A content between 0.1 per cent. and 0.2 per cent. means rapidly fatal termination in the majority of cases of nephritis. A content between 0.05 per cent. and 0.1 per cent. does not permit of any definite conclusion either as regards diagnosis or prognosis. Such a content is, however, suggestive of severe urea retention and must be taken into consideration in the diagnosis of the condition.

30. **Excretory Power of Skin and Kidney.**—This study by Plaggemeyer and Marshall has demonstrated that the glands of the skin concentrate urea and ammonia, but that the diastatic activity is less than that in either blood or urine, and that uric acid is present in less concentration than in the blood. The relative concentrating power of the skin and kidney for urea and ammonia are very different, though in both cases the percentage values are higher than those for blood. These facts, in conjunction with the fact that the kidneys show a decided selective action for many dyestuffs, while on the other hand mercury seems to be more readily excreted through the skin, lead Plaggemeyer and Marshall to conclude that, under normal conditions, the skin and kidneys show a distinct selective action. The bearing of this on sweat-baths as a therapeutic measure in cases of uremia and nephritis is evident. The various substances which are producing toxemia in a given case may be among those which the kidney can concentrate, while in sweat they are found in less concentrated form than in the blood-stream. In the former case, sweating would not be indicated. Hence, certain reservations should be made on the efficacy of such procedures as a routine method of treatment.

Archives of Pediatrics, New York

December, XXX, No. 12, pp. 881-952

32 Infant Mortality, Ancient and Modern. L. E. Holt, New York.
33 *Heat and Infant Mortality. J. W. Schereschewsky, Washington, D. C.
34 Medical Supervision of Child between Infancy and School Age. H. L. R. Shaw, Albany, N. Y.

33. **Heat and Infant Mortality.**—It is Schereschewsky's belief that the action of heat as a direct cause in the summer mortality of infants has been greatly underestimated in the last twenty-five years. In the future much more weight should be given to its influence. The lethal action of heat is a function not so much of the maximum and mean temperatures of the external air as of the indoor temperatures, which, in the late summer, may continue to be high in spite of remissions in temperature of the external air. The action of dirty and stale milk in causing the death of infants has been given a significance which has overshadowed other factors of equal or greater importance.

There is evidence to show that a certain proportion of infant deaths are due to specific infections, in the dissemination of which contact infection and flies doubtless play a part. Schereschewsky maintains that future activities for the prevention of infant mortality must concentrate themselves to a greater extent on the question of housing, especially the conditions productive of high indoor temperatures, such as overcrowding, narrow streets and the absence of thorough ventilation. Poor housing conditions can be neutralized in part by the proper care of babies in the summer. The general public should be educated as to the importance of high indoor temperatures in causing the death of infants, and especially as to measures which prevent babies from suffering from the heat. Breast feeding is still regarded as a most, if not the most, important preventive of the summer death of infants.

Boston Medical and Surgical Journal

January 22, CLXX, No. 4, pp. 113-148

35 *Mortality of Hereditary Syphilis. A. Post, Boston.
36 Case of Myatonia Congenita (Oppenheim). J. W. Courtney and H. B. Eaton, Boston.
37 Suspicion of Malignancy. H. Lilienthal, New York.
38 *Corynebacterium Hodgkini in Lymphatic Leukemia and Hodgkin's Disease. A. E. Steele, Boston.
39 Condition of Vasomotor Center in Pneumonia. W. T. Porter and L. H. Newburgh, Boston.
40 Study of Cancer. S. W. Little, Rochester, N. Y.

35. **Mortality of Hereditary Syphilis.**—The mortality in 30 syphilitic families has been tabulated by Post. In these 30 families there have been 168 pregnancies; of these pregnancies there have been 53 stillbirths and miscarriages, and 44 early deaths—a total of 97 lost, or 57 per cent.—71 remain alive. Fifty-seven per cent. of the pregnancies are dead. Thirty-

eight per cent of the children born alive are dead. Out of the 168 pregnancies, of the 115 children brought living to the world, there remain alive 71; of these 71, 32 have been patients, leaving only 39 presumably healthy. The chief attributed causes in 86 fatal cases in syphilitic families, according to the mothers' accounts, were cholera infantum, 25; marasmus, 27.

38. **Corynebacterium Hodgkini in Lymphatic Leukemia and Hodgkin's Disease.**—A diphtheroid bacillus, similar in its morphological and cultural characteristics to the organism described by Negri and Micremet, Bunting and Yates, and Billings and Rosenow has been cultivated by Steele from the lymph-nodes of a case of lymphatic leukemia, and one of Hodgkin's disease. Its relationship to these diseases has not been definitely determined, although further studies on this subject are in progress.

California State Journal of Medicine, San Francisco

January, XII, No. 1, pp. 1-44

41 Hydrophobia in San Francisco. R. G. Broderick, San Francisco.
42 Points in Tuberculosis of Interest to Health Officers. R. A. Peers, Colfax.
43 Relation of Sanitarian to Vocational Guidance. W. Simpson, San Jose.
44 Modifications in Administrative Measures Necessitated by Carrier Problem. F. W. Browning, Hayward.
45 Suggested Improvements in Methods of Controlling Common Contagious Diseases. J. Temple, Santa Rosa.
46 Recent Legislation on Communicable Diseases in United States. J. N. Force, San Francisco.
47 Administrative Measures for Control of Scarlet Fever. J. J. Benton, Berkeley.
48 Rating Efficiency of Hospitals and Institutions for Tuberculous. B. F. Howard, Sacramento.
49 Venereal Disease Problem. C. R. Blake, Richmond, Va.
50 Pellagra. R. W. Harbaugh, San Francisco.
51 Formation and Orthography and Pronunciation of Medical Terms. W. H. Mills, San Francisco.
52 Artificial Synostosis of Tuberculous Spine. J. T. Watkins, San Francisco.
53 Recent Advances in Treatment of Dacryostenosis. L. D. Green, San Francisco.
54 Fifth Annual Conference of State, County and Municipal Health Officials. W. A. Sawyer, Berkeley.

Cleveland Medical Journal

January, XIII, No. 1, pp. 1-80

55 *Improved Method of Removing Diverticulum of Urinary Bladder. W. E. Lower, Cleveland.
56 Wayside Notes of Visits to German Clinics in June, 1912. G. W. Crile, Cleveland.
57 *Roentgen Diagnosis of Lesions in Region of Mediastinum. G. F. Thomas, Cleveland.
58 Syphilis of Spine. H. G. Sloan, Cleveland.
59 Rôle Played by Obstetrician in Prevention of Infant Mortality. A. F. Furrer, Cleveland.

55. **Removing Diverticulum of Urinary Bladder.**—In the case cited by Lower, the diverticulum opening was packed with strips of gauze, so that it was converted into a semi-solid tumor. With the fingers within the bladder its upper portion was pulled forward, while by careful dissection the bladder was separated from the peritoneum. With the index finger of the left hand in the diverticulum opening, the bladder was pulled well forward and slightly to the left so that the neck of the diverticulum was brought into view. This was then divided entirely in order to separate the diverticulum from the bladder. The bladder was then pushed laterally underneath and was held away from the diverticulum by means of flexible retractors. As the right ureter was situated at the opening of the diverticulum, it was divided by the circular incision. It was necessary, therefore, to place a catgut suture around the divided ureter to prevent the escape of urine during the remainder of the operation.

The diverticulum which had been converted into a semi-solid tumor by means of the inserted gauze was carefully dissected away from the surrounding structures and removed. The divided ureter was then transplanted into the bladder through the opening made by resecting the diverticulum. A small cigaret drain and a piece of iodoform gauze were inserted outside the bladder into the cavity from which the diverticulum was removed. The fascia was united with chromic catgut and a catheter was placed within the urethra. The patient has made an uninterrupted recovery without any complications whatever.

57. Abstracted in THE JOURNAL, Nov. 8, 1913, p. 1743.

Colorado Medicine, Denver

January, XI, No. 1, pp. 1-30

60 Blood Platelets—Some Studies in Connection with Altitude and Tuberculosis. G. B. Webb, G. B. Gilbert and L. Havens.
61 *Plea for Early Operation for Cancer of Lower Lip. E. H. Beckman, Minnesota.
62 Case of Neuritis from Cervical Rib; Operation; Recovery. J. N. Hall, Denver.
63 Radium Therapy. J. Q. Allen, Montrose.

61. Abstracted in THE JOURNAL, Oct. 25, 1913, p. 1574.

Journal of Nervous and Mental Disease, Lancaster, Pa.

January, XLI, No. 1, pp. 1-64

64 *Two Cases of Removal of Extradural Tumor of Spinal Cord. P. C. Knapp, Boston.
65 Neosalvarsan in Treatment of Parasyphilis of Nervous System. E. D. Fisher, New York.
66 *Anterior Crural Neuritis. C. M. Byrnes, Baltimore.

64. **Extra-Dural Tumor of Spinal Cord.**—Thirty-six cases in which operations have been performed for the relief of tumors of the spinal cord by the advice of the neurologists have been collected by Knapp. In only 11, however, was the growth entirely removed. Eight of these showed more or less marked improvement and only 2 died as a result of the operation,—a mortality of only 18 per cent. In 7 cases a malignant growth was found which could be removed only in part. Even in such hopeless cases 3 were somewhat benefited. In the whole 36 cases 20 were helped by the operation and 12 died, either as a direct result of the operation or from complications following it—an operative mortality of 36 per cent. In view of the hopeless outlook for these cases without operation, Knapp thinks that the experience of neurologists affords further evidence in justification of such operations, even in cases in which the growth cannot be wholly removed.

66. **Anterior Crural Neuritis.**—From a review of the literature Byrnes finds there are, including his personal observations, 136 instances in which the femoral nerve has been the seat of an inflammatory process originating from some internal or medical disorder. The disease has been observed 84 times as a post-partum complication, once as a congenital affection, 8 times as a primary condition, and 3 instances have been referred to which Byrnes has been unable to verify. The remaining 40 cases are distributed among 15 different disorders. In a few instances the inflammation has extended to adjacent nerves, but in each case the most pronounced symptoms have been confined to the femoral distribution.

Of 49 instances of femoral neuritis which have been studied with sufficient care to be instructive, in 33 cases both sides were affected, and in 5 the affected side was not mentioned. In the unilateral cases, the right nerve was involved 17 times; the left 14 times, and in 2 cases the affected side was not stated. Of the bilateral cases, the initial symptoms appeared first on the right side in 5 instances; on the left in 2 cases, and not indicated in 4. If the bilateral cases be regarded as transitory unilateral affections according to the side first affected, and are added to the distinctly unilateral conditions, there are, in a total of 38 cases, 22 instances in which the right side was affected and 16 in which the initial symptoms were on the left side.

In 18 cases the condition was "primary" or "idiopathic." In these 18 cases, the disease was unilateral 14 times; bilateral once, and not stated in 3 instances. Of the 14 unilateral cases, the right side was affected 5 times, the left side 7 times, and unmentioned in 2 cases. In the one bilateral condition the right side was first involved, and if this be added to the 5 distinctly unilateral cases, the two sides are about equally affected. The disease is chiefly met with in middle-aged and elderly people. Of the 33 cases in which sex was indicated, 25 were in males and 8 in females.

The onset of the disease may be acute or subacute. The commonest and earliest symptom is pain in the distribution of the crural nerve or one of its neighboring branches. In the course of a week, or even a month, if the onset be subacute, the pain becomes more persistent, of wider distribution, greater intensity, and of a continuous paroxysmal nature with nocturnal exacerbations. The character, location and extent of the pain are quite distinctive. Except in the mildest cases, there is always some motor disturbance. Weakness and

"giving way" of the knee are sommon complaints, and there is some difficulty in raising the leg from the bed when the knee is fixed. There is usually moderate wasting of the muscles on the front of the thigh. The superficial reflexes, epigastric and abdominal, may or may not be altered. Slight electrical changes are usually to be found in the muscles of the affected side. Byrnes believes that there are many instances which have either not been recognized or have been thought to merit no further consideration.

Journal-Lancet, Minneapolis

January 15, XXXIV, No. 2, pp. 31-60

67 The Kinetic System. G. W. Crile, Cleveland.
68 Typhoid Feeding, with Special Reference to High-Calory Diet. W. H. Bodenstab, Bismarck, N. D.
69 Vaccines in Surgical Practice. R. G. Stevens, Sioux Falls, S. D.
70 Vaccines and Modified Vaccines, with Report of Case. A. H. Stoll, Brookings, S. D.

Laryngoscope, St. Louis

December, XXIII, No. 12, pp. 1121-1184

71 Development and Extension of Limits of Laryngology. G. A. Leland, Boston.
72 Indications for Correction of Deviations of Nasal Septum by Gleason Operation. E. B. Gleason, Philadelphia.
73 Autogenous Vaccine in Treatment of Hay-Fever. P. M. Farrington, Memphis, Tenn.
74 Ethmoidal Abscess Caused by Bacillus Fusiformis of Plaut-Vincent. F. H. Brandt, Boise, Ida.
75 Large Cyst of Epiglottis. H. Moulton, Fort Smith, Ark.
76 Intranasal Operations and Their Relation to Hearing. S. W. Thurber, New York.
77 Gradenigo's Syndrome: One Case-Report and Analysis of Published Cases. H. B. Greham, San Francisco.
78 Face Protector. F. E. Cutler, Cleveland.
79 Needle for Intranasal Suturing. C. N. Spratt, Minneapolis.
80 Sharp Tonsil Dissector with Double Pillar Retractor: Modified Jansen-Middleton Nasal Septum Punch. S. Goldstein, New York.

Medical Record, New York

January 24, LXXXV, No. 4, pp. 139-184

81 Occupations of Afebrile Tuberculous Patients. S. A. Knopf, New York.
82 Hygiene of Farmhouse and Farm. J. A. Nydegger, Baltimore.
83 Tuberculosis of Testicle: Report of Case of Antenatal Transmission. A. L. Goodman, New York.
84 Significance of Irregular Uterine Bleeding. L. Broun, New York.
85 Venous Circulation. S. M. Robinson, Orlando, Fla.
86 *Case of Chronic Intestinal Toxemia of Severe Type. E. E. Cornwall, Brooklyn.
87 Typhoid Spine: Report of Case Complicated by Thrombophlebitis of Left Femoral Vein. C. B. Conklin, Washington, D. C.
88 Bacillus Lactis Bulgaricus in Infantile Gastro-Enteritis. L. H. Schwartz, New York.

86. **Chronic Intestinal Toxemia.**—Cornwall's case presents a number of interesting and suggestive points, among which are the following: The patient gave a marked family history of arthritis deformans, and a personal history of a sedentary occupation, of constipation, and of periodical headaches for many years previous to the onset of continuous symptoms. He obtained relief from his continuous and characteristic symptoms by a diet in which the protein derived from animal tissues was scarcely 5 per cent. of the total protein, and in which nearly all of the protein was derived from bread, cereals, milk and cheese; in which the protein ration was kept at a daily average of about 67 gm., and the fuel ration at a daily average of 2,240 calories, from which cane sugar was particularly excluded, and in which was included a considerable amount of the cellulose of green vegetables. He increased both his protein and fuel rations in the months of December, January and February, and diminished them in the other months. He maintained good general health on this diet and gained in weight and had more endurance than when eating his former conventional diet, but was less energetic and slower in his movements than formerly. Since taking this diet the keenness of his sense of taste has increased. Although his continuous symptoms disappeared after taking this diet, and his general condition greatly improved, he continued to have periodic attacks with symptoms suggesting cyclic accumulations of intestinal toxins in the blood or cyclic disturbances of the liver. Symptoms resembling those of these cyclic disturbances could be brought on by eating animal flesh, by unusual physical exertion and by excitement.

His stools became light yellow in color at the time of the cyclic disturbances during the first two years of the period of observation, but were nearly normal in color after that period. They were noticeably offensive in odor only at the time of the cyclic disturbances, after a laxative. They were smaller in total quantity while taking the non-putefactive, anticonstipation diet than formerly when taking the conventional diet. Indicanuria was not a noticeable symptom either at the time of his cyclic disturbances or in the intervals between them. A small dose of a saline laxative taken at night was usually effective in promptly removing the symptoms of his cyclic disturbances. A larger dose of the same saline when taken in the morning was less effective. Vegetable cathartics were generally less effective than salines, though occasionally when the salines failed absolutely to abate the toxemic symptoms, which happened periodically, a large dose of a vegetable cathartic proved effective for that purpose. Raw cabbage, eaten daily, was of great assistance in overcoming his habitual constipation. His blood-pressure was raised by the cyclic disturbances.

After two years of a non-putrefactive anticonstipation diet the periods between his cyclic disturbances lengthened.

Missouri State Medical Association Journal, St. Louis

January, X, No. 1, pp. 229-266

89 Tuberculin Treatment. W. W. Duke, Kansas City.
90 Blood-Pressure. M. P. Overholser, Harrisonville.
91 Operative Procedure in Treatment of Uterine Displacement. J. M. Dean, St. Louis.
92 Luke, the Greek Physician. G. Homan, St. Louis.
93 Brain Syphilis: Case Report with Post-Mortem Findings. G. H. Hoxie, Kansas City.
94 Vincent's Angina with Case Report. W. K. Statler, Oakridge.
95 Some Methods of Promoting Interest in County Medical Society. G. W. Goins, Tooele, Utah.
96 Treatment of Internal Hemorrhoids. R. H. Barnes, St. Louis.
97 History of Medical Organization in Cass County, Methods of Conducting Its Society, and What It Has Accomplished. H. S. Crawford, Harrisonville.

New York Medical Journal

January 24, XCIX, No. 4, pp. 153-204

98 Chronic Intestinal Stasis Surgically Considered. W. S. Bainbridge, New York.
99 Chronic Intestinal Stasis Roentgenographically Considered. A. J. Quimby, New York.
100 Chronic Intestinal Stasis. W. V. Hayes, New York.
101 Acute Pancreatitis. J. F. Erdmann, New York.
102 Insanity in Latent Bright's Disease. G. W. McCaskey, Fort Wayne, Ind.
103 Abdomen Strengthening: Valuable Treatment. S. Lewis, Lakehurst, N. J.
104 Treatment of Fractures Near Elbow. A. O. Wilensky, New York.
105 Gas-Oxygen Anesthesia. A. H. Miller, Providence, R. I.
106 Treatment of Disease in Aged. A. Orenstein, New York.

New York State Journal of Medicine, New York

January, XIV, No. 1, pp. 1-56

107 Principles Underlying Successful Treatment of Sterility in Women. E. Reynolds, Boston.
108 Cardiospasm, What Is It? What It Seems To Be. A. Bassler, New York.
109 *Benzol in Treatment of Leukemia, with Results in Case of Myeloid Form. J. Meyers and T. Jenkins, Albany.
110 *Importance of Treatment of Weak Feet in Childhood. B. H. Whitbeck, New York.
111 Treatment of Toxemias of Pregnancy with Placental Serum. A. J. Rongy, New York.
112 Gall-Bladder and Its Passages: Plea for Early Operation. L. F. O'Neill, Auburn.
113 Two Cases of Abscess of Liver Following Gall-Bladder Disease. F. W. Sears, Syracuse.
114 Nasal Obstruction as Predisposing Factor in Etiology of Pulmonary Tuberculosis. J. E. McCambridge, Poughkeepsie.
115 *Examination of Exposed as Factor in Prevention and Relief of Tuberculosis. J. H. Pryor, Buffalo.
116 *Infant-Feeding from New Viewpoint. G. R. Pisek, New York.
117 Case of Anorexia Nervosa in Infant. N. G. Orchard, Rochester.
118 Sub-Conjunctival Injections of Cyanid of Mercury in Ophthalmology. C. B. Meding, New York.
119 Squint and Its Correction. J. J. O'Brien, Schenectady.
120 Indications for Operation on Nasal Septum. J. F. McCaw, Watertown.
121 *Selective Drug Action on Nervous System as Aid to Diagnosis. C. J. Roberts, Buffalo.

109 and 115. Abstracted in THE JOURNAL, May 17, 1913, p. 1575.

110. Abstracted in THE JOURNAL, May 10, p. 1483.

116. **Infant-Feeding.**—Scientific infant-feeding, Pisek states, consists of doing what is right at the time, for the particular

infant. It is impossible to state in a book what shall be done under all conditions, for the conditions are seldom exactly alike in different cases. For example, at one time it may be highly scientific to pasteurize food, and at another time just as scientific to add certain types of bacteria to the food. Here there is no contradiction. Each procedure has its place and in its place is scientific. Out of its place it is unscientific.

121. Abstracted in THE JOURNAL, May 10, 1913, p. 1484.

Ohio State Medical Journal, Columbus

January, X, No. 1, pp. 1-64

122 Serodiagnosis of Pregnancy. N. D. Goodhue, Dayton.
123 Practical Value of Roentgenoscopy of Stomach. S. Lange, Cincinatti.
124 Endoscopy as Applied in Laryngology. T. Hubbard, Toledo.
125 *Treatment of Acute Endocarditis. J. Phillips, Cleveland.

125. **Treatment of Acute Endocarditis.**—Phillips states emphatically that in the treatment of acute endocarditis the most important thing is rest, both mental and physical. This should often extend over a period of four or six months or even longer. The rest in bed should be absolute, no exertion being done by the patient that can be done for him by others. To counteract the muscular flabbiness that is necessarily an accompaniment of such a long stay in bed, as soon as the temperature is normal, massage should be given daily for a period of thirty minutes, starting first with general rubbing and kneading the muscles and later giving passive and resistive movements. The diet should at first consist largely of milk and cereals, with moderate amount of fluid and alkaline drinks. During convalescence a full diet should be prescribed, especially should milk, eggs and fresh vegetables be liberally given. The bowels should be kept freely open.

The application of cold in the form of an ice-bag is the most useful form of local treatment. It should never be applied directly to the skin, but the latter should be covered with a thin piece of flannel and the ice-bag applied over this.

In rheumatic endocarditis, salicylates should be given in doses of 20 grains combined with 30 grains of sodium bicarbonate every hour until the patient is toxic. As a rule, this takes from 180 to 200 grains. After the toxic symptoms, the most common of which is tinnitus aurium, appear, the salicylates are given in doses of from 15 to 20 grains every three or four hours so as to keep the patient on the verge of toxicity until the febrile period has passed. When the sodium bicarbonate is thus combined with salicylate, nausea and vomiting are rarely seen. Salicylates should be continued in moderate doses two days out of every week over an indefinite period of time.

In cases of endocarditis due to causes other than rheumatism, the same general measures of treatment should be followed with the exception of the administration of salicylates, and the disease which is the underlying cause should receive appropriate treatment.

If there are signs of failure of the cardiac muscle, among the drugs used to combat this cardiac failure are strychnin, ammonia, camphor or strophanthin, brandy and ether. Where rapid stimulation is needed camphor or strophanthin give the best results. If dyspnea and cyanosis are very troublesome inhalations of oxygen are often of considerable service, especially in children. If the patient suffers a great deal from precordial pain small doses of morphin should be given. Hyperpyrexia is treated by sponge baths as in other conditions. Anemia calls for the administration of iron, occasionally combined with arsenic.

The treatment of malignant endocarditis is that of septicemia—in most cases hopeless. Blood cultures should be taken early and if possible a vaccine prepared and used.

Pennsylvania Medical Journal, Athens

January, XVII, No. 4, pp. 253-338

126 *Treatment of Fractures. J. B. Lowman, Johnstown.
127 Practical Value of Vaccine Treatment and Various Forms of Serum Treatment. A. Stengel, Philadelphia.
128 Scientific Basis for Vaccine Therapy. R. M. Pearce, Philadelphia.
129 Importance of Precise Determination of Ocular Filtration. J. T. Carpenter, Philadelphia.
130 Newer Operations for Acute and Chronic Glaucoma. L. W. Fox, Philadelphia.
131 Demonstration of Defects of Speech. G. Hudson-Makuen, Philadelphia.
132 Extraction of Immature Cataract by Homer C. Smith Method. H. F. Hansell, Philadelphia.
133 Endoscopic Treatment of Bronchiectasis. E. E. Musson, Philadelphia.
134 Clinical Study of Ocular Tonometers. W. Reber, Philadelphia.
135 Practical Differential Tests of Hearing. B. A. Randall, Philadelphia.
136 Clinical Demonstration of Eye Cases. S. D. Risley, Philadelphia.
137 Removal of Pair of Tonsils of Extraordinary Size. B. C. Gile, Philadelphia.
138 *Carcinoma of Breast. J. B. Deaver, Philadelphia.
139 *Diagnostic Errors in Differentiating Lesions of Cervix. E. A. Weiss, Pittsburgh.
140 *Modern Ideals in Care of Insane. W. K. Walker, Pittsburgh.

126. Abstracted in THE JOURNAL, Oct. 18, 1913, p. 1483.

138 and 139. Abstracted in THE JOURNAL, Oct. 25, 1913, pp. 1564 and 1565.

140. Abstracted in THE JOURNAL, Oct. 11, 1913, p. 1398.

Southern Medical Journal, Nashville

January, VII, No. 1, pp. 1-85

141 *Diagnosis and Treatment of Commoner Thyreopathies. L. F. Barker, Baltimore.
142 *Cancer Problem from Standpoint of Laity, General Practitioner and Expert Surgeon. J. C. Bloodgood, Baltimore.
143 *South's Greatest Public Health Need. C. L. Wilbur, Washington, D. C.
144 *Vital Statistics. O. Dowling, New Orleans.
145 Management of Lacerated and Contused Wounds. J. S. McEwan, Orlando, Fla.
146 *The South in Medicine. F. A. Jones, Memphis, Tenn.

141. **Diagnosis and Treatment of Commoner Thyreopathies.**—This excellent article is so comprehensive that the limited space of this department prohibits a proper abstract.

142. **Cancer Problem.**—Several articles on this subject by Dr. Bloodgood have appeared in THE JOURNAL as originals and as abstracts.

143. **South's Greatest Public Health Need.**—A fundamental means "by which government may be put at the service of humanity in safeguarding the health of the nation, the health of its men and its women and its children, as well as their rights in the struggle for existence," is the recording of the vital statistics, the true "bookkeeping of humanity." This is recognized by every practical sanitary and social worker. It is to our shame, says Wilbur, that we have neglected this duty so long; that legislatures and state boards of health have wasted the people's time and money, and frittered away the people's lives through ignorance of the important facts that vital statistics—accurate vital statistics—alone can reveal. When the children's bureau, established for the purpose of protecting the young and charged with the duty of studying infant mortality, is brought to a halt by the absence of the necessary data, it is time to consider why our country should stand in the rear, and not in the van, of national progress. Convinced that the most effective work on behalf of public health that can be done in this country to-day lies in the prevention of infant mortality, the children's bureau is brought to the necessity of appealing for such legislation and such local records as will indicate where and when the babies are born and where and when they die as a preliminary to an intelligent study of the subject.

144. **Vital Statistics.**—Dowling recommends transmission to the legislature of each Southern state, where needed, a petition for the consideration of: (1) The adoption of the model vital statistics law in full. (2) Appropriation of adequate funds to establish an effective system of collection and compilataion of vital statistics and analysis and application of data received. (3) Designation of a date for thirty minutes' discussion before the legislature of reliable vital statistics, the basis of commercial, sanitary and social progress in the South.

146. **The South in Medicine.**—Jones says:

> The chair has preached and taught elevation of standards in our medical schools and in our Association for many years. He will continue to do so. But let us not have our standard so high that the essence and flavor of real good work are squeezed out. Let us not require anything of our prospective students that our faculties cannot conform to themselves. We read much about the requirements on the part of the student for entrance, but nothing about

the requirements of the professor who teaches. In all this shake-up of standards begin at the top. Let us standardize our faculties first. We need more standardizing of faculties than we need standardizing of entrance on part of the student. The sauce of the student should be good for the professor. The question, what is the professor's ability to teach? stands in direct relation to the question: What is the student's ability to enter? In raising our standards to any particular point, we say a B.S. or B.A. degree for entrance, let those members of our faculties who have not these degrees promptly resign. Let all those schools throughout the country that have such a lofty standard ask their professors who are not qualified to step down and out.

One of the crying evils of the age is the cramming and crowding too many hours of work in our curricula. We are raising standards, we are raising tuition, which is right. But may I ask how can a student do himself justice as the schedule of lectures now stand?

The Southern Medical Association, in its influence for good, should have the hearty cooperation of every Southern physician. It should be for the physicians, by the physicians and of the physicians. Every Southern medical college worthy of living, though its lot may be hard for a few years, should be dealt with justly.

Texas State Journal of Medicine, Fort Worth

January, IX, No. 9, pp. 267-300

147 Submucous Resection of Septum. C. A. Freligh, New York.
148 Acute Mastoiditis; Report of Cases. W. D. Jones, Dallas.
149 Radical Mastoid Cases: Some Causes of Failure in This Class of Work. H. T. Aynesworth, Waco.
150 Clinical Pathologist. J. J. Terrill, Galveston.
151 Meningitis Carriers. J. H. Black, Dallas.
152 Meningitis and Public Health. A. D. Patillo, Petrolia.
153 Recent Advances in Orthopedic Surgery. E. W. Ryerson, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

December 30, VII, No. 4, pp. 479-632

1 Studies in Blackwater Fever. J. W. W. Stephens.
2 Growth and Sporulation of Benign and Malignant Tertian Malarial Parasites in Culture Tube and in Human Host. J. G. Thomson and D. Thomson.
3 Trichocardiases. A. J. Chalmers and W. R. O'Farrell.
4 Epidemic Trichocardiasis. A. J. Chalmers and A. D. Stirling.
5 Hereditary Infection, with Special Reference to Its Occurrence in Hyalomma Aegyptium Infected with Crithidia Hyalommae. W. R. O'Farrell.
6 Trypanosoma Vivax in Rabbits. B. Blacklock and W. Yorke.
7 Pathogenicity of Nosema Apis to Insects Other than Hive Bees. H. B. Fantham and A. Porter.
8 Certain Mosquitoes of Genera Banksinella, Theobald, and Taeniorhynchus, Arribalzaga. H. F. Carter.
9 New Culicidae from Sudan. F. V. Theobald.
10 Probable Identity of Trypanosoma Congolense (Broden) and T. Nanum (Laveran). B. Blacklock and W. Yorke.
11 Herpetomonas Stratiomyiae, n. sp., a Flagellate Parasite of Flies, Stratiomyia Chameleon and S. Potamida, with Remarks on Biology of Hosts. H. B. Fantham and A. Porter.
12 Culture of Babesia (Pioplasma) Canis in Vitro. J. G. Thomson and H. B. Fantham.

British Medical Journal, London

January 10, II, No. 2767, pp. 69-124

13 *Pneumonia: Its Nature and Treatment. J. Barr.
14 Syphilis as Affecting Health of Community. C. H. Browning.
15 Treatment of Hydatid of Liver. C. MacLaurin.
16 Two Cases of Tuberculous Peritonitis and Salpingitis with Menstrual Complications. W. G. Spencer.
17 *Administration of Guaiacol in Pulmonary Tuberculosis. G. M. Mayberry.
18 Epidemic Cervical Adenitis. R. D. Rudolf.

13. **Pneumonia.**—Speaking of the diet in pneumonia Barr says that one of the greatest difficulties in private practice is to control the diet; the public has been educated in the belief that great quantities of nourishment and stimulants are necessary, and too frequently the regulation of the diet is left to the nurses and relatives, consequently one frequently finds the abdomen enormously distended with flatus which prevents the free play of the diaphragm. There is usually a paretic condition of the intestinal tract, and any food decomposition is apt to give rise to acute dilatation of the stomach and bowels; when this occurs pituitary extract is the remedy *par excellence*. There is scarcely any anabolic change going on during the febrile stage, so there is no use in troubling the patient with large quantities of nitrogenous food, which are not required and are only apt to form poisonous ptomains. It is a great mistake to worry the patient with much food during the first three or four days of illness, and it should be very gradually increased as the patient seems capable of digesting it. It is not what is put into the patient's stomach, but what he assimilates, that proves of any value.

Barr has found that a good combination consists of an infusion of half a pound of raisins in a quart of hot water with three or four ounces of syrup of glucose, two drams of sodium chlorid and half a dram of the glycerophosphate or lactate of calcium. The patient can drink this *ad libitum*. Milk is an excellent item in the diet, but it is not always easily digested, and consequently it should be well diluted; it should be boiled to get rid of the *bacillus coli* and other organisms. The following is cited to serve an adult in the acute stage for twenty-four hours: About 2 pints of milk, 2 or 3 pints of barley water, whey, or plain water, 6 or 8 ounces of syrup of glucose, 4 or 5 drams of table salt, and 1 dram of the glycerophosphate of calcium. If the syrup of glucose be too sweet or mawkish, a quarter of a pound of sugar of milk can be used. Later on the patient can have peptonized bread and milk or some infants' food, broths, raw eggs, jellies, cocoa or coffee, and a few biscuits. He can have cold water when he likes.

17. **Guaiacol in Pulmonary Tuberculosis.**—Guaiacol is administered by Mayberry in the following mixture, and as a rule he finds it practicable to increase the dose of guaiacol by 2 minims each week until a maximum of 12 to 15 minims is given three times a day: Guaiacol ℥j, spirit. vini rect. ℥j, syrupi limonis ℥j, spirit. chloroformi ℥ij, aqua ad ℥vj. The dose of this is ℥ss thrice a day.

Clinical Journal, London

December 10, XLII, No. 36, pp. 561-576

19 Flexion of Right Hip-Joint. L. McGavin.
20 Gonorrhea and Its Complications in Pregnant Women. D. Watson.
21 *Postoperative Embolism of Femoral Artery: Two Cases, One Bilateral, the Other Unilateral; Arteriotomy Attempted in Latter Case. C. G. Watson.

December 17, No. 37, pp. 577-592

22 Errors of Diagnosis in Ear Diseases. M. Yearsley.
23 Certain Considerations which Influence Question of Operation in Ophthalmic Surgery. E. Thomson.

December 24, No. 38, pp. 593-608

24 Common Errors in Diagnosis of Infectious Diseases. E. W. Goodall.
25 *Pessaries Versus Operations in Treatment of Uterine Displacements. A. E. Giles.
26 Treatment of Phthisis and Hemoptysis by Induction of Artificial Pneumothorax. C. Lillingston.
27 Technic of Operations for Intestinal Obstruction in Large Intestine. H. B. Angus.

December 31, No. 39, pp. 609-624

28 Treatment of Exophthalmic Goiter. F. Langmead.
29 *Renal Infantilism. R. Miller and L. Parsons.
30 Some Cerebral Manifestations of Influenza. F. E. Tylecote.

January 7, XLIII, No. 1, pp. 1-16

31 Ophthalmology in General Practice. M. L. Hepburn.
32 Mistakes in Diagnosis of Perforated Gastric Ulcer. J. Howell.
33 Malingering and National Health Insurance. T. M. Martin.

21. **Postoperative Embolism of Femoral Artery.**—Two weeks after a laryngectomy for cancer Watson's patient was seized by an ascending pallor, loss of sensation and power in the left leg. When seen by Watson six hours after the onset of symptoms no pulse could be felt in the femoral artery below the bifurcation, but iliac pulsation could be felt. The foot and leg up to the knee were cold, pallid and insensitive. Immediate operation was decided on, and Watson exposed the common femoral artery. Pulsation ceased at the bifurcation and Watson decided to open the artery with a view to embolectomy. While raising the artery from the femoral sheath for the purpose of applying a Crile's clamp pulsation suddenly returned in the superficial femoral artery. Watson then exposed the superficial femoral at the lower end of Hunter's canal, as he was unable to satisfy himself that pulsation could be felt there. Watson found that the vessel pulsated as far as the middle of the popliteal space, and closed the wounds. Next day some warmth had returned to the foot, but no pulsation could be felt in the tibial arteries. Gangrene of the foot eventually became established, and a week later Watson amputated the leg through the condyles of the femur.

The artery was completely blocked at the bifurcation of the popliteal by thrombus, which extended down into both tibials. Watson was unable to identify a definite embolus. The patient made a good recovery from the amputation, and is now, nearly two years after the operation of laryngectomy for carcinoma, free from recurrence, and in good health. There is no evidence of vascular disease.

25. **Treatment of Uterine Displacements.**—In the group of cases in which there is a clear indication for pessary treatment Giles includes: retroversion of the uterus following confinement; retroversion occurring in young and nulliparous women, when the symptoms of displacement are of recent origin, and the uterus fails to keep up after simple reposition; retroversion of the gravid uterus in the early months; prolapse of the uterus, with or without cystocele, when the perineum is sufficiently good to hold a ring well up; cystocele with prolapse, with the same proviso as above, that the perineum is sound; all kinds of mobile displacement when the condition of the patient is such as to contra-indicate operation.

Cases in which there is a clear indication for operation are: all cases of backward displacement in which the uterus is fixed by adhesions so that its position cannot be rectified; backward displacement complicated by ovarian tumors or inflammatory disease of the appendages; backward displacement complicated by one or more fibroids admitting of myomectomy; mobile retroversion associated with torn perineum that requires repair; retroversion associated with an atrophic condition of the upper part of the vagina in such a fashion as to render pessaries ineffectual; prolapse of the uterus and vaginal walls, when the perineum is so torn or stretched that no ordinary pessary will keep in place; total procidentia, with the vagina inverted and the uterus lying outside the vulva; particularly when associated with ulceration of the vagina due to friction of the clothes; all cases of displacement when the patient is going to reside abroad in districts where medical assistance is not readily available; all cases of displacement in which a pessary rapidly perishes or becomes rough, or leads to profuse and offensive discharges, or causes inflammation or ulceration of the vaginal walls; cases of displacement in neurotic single women, on whom the concentration of attention on the pelvic organs incidental to the wearing of a pessary, frequent douchings and periodical examinations has a harmful mental and moral effect.

29. **Renal Infantilism.**—Miller and Parsons maintain that a class of symptomatic infantilism secondary to a perversion of renal functions may be recognized ("renal infantilism"). It may occur with organic renal disease; in the cases hitherto reported this type has been due to non-syphilitic chronic interstitial nephritis, whether cardiovascular changes be present or absent. Here the infantilism is likely to be of a severe grade, and death tends to occur during childhood or early adolescence from uremia or pneumonia. It may also occur apart from organic renal disease (diabetes insipidus). This type may be due to inherited syphilis, organic nervous lesions, and the other recognized causes of diabetes insipidus. The infantilism is not of a severe grade, and life may be prolonged. In either type the symptoms, polydipsia, polyuria and retarded development, may be present from birth or may develop during early childhood. Hitherto no case of either type has been materially affected by treatment.

Edinburgh Medical Journal

January, XII, No. 1, pp. 1-96

34 Isolation and Quarantine Periods in More Common Infectious Diseases. C. B. Ker.
35 *Association of Acutely Fatal Illness in Infants and Children with Abnormal Constitution (Status Lymphaticus). C. M'Neil.
36 Spinal Changes in Pseudohypertrophic Paralysis. A. N. Bruce.
37 What Is Genuine Milk? W. C. Dundas.
38 *Fertilization Time and Inception of Gestation in Women. J. Oliver.
39 Case of Osteochondritis Deformans Juvenilis. D. P. D. Wilkie.
40 *Spontaneous Recovery after Perforation of Duodenal Ulcer. J. W. Struthers.

35. **Fatal Illness in Infants and Children.**—In a group of thirteen infants from 2 to 4 months old, nearly all found dead in bed, and all apparently well-developed and nourished, the lungs in eight cases were examined by McNeal and showed marked congestion, bronchitis and bronchopneumonia. This was associated in most cases with hyperplasia, general or partial, of the thymolymphatic system. McNeal believes that these cases of sudden death in infants may therefore be described as cases of fulminant bronchitis and bronchopneumonia, associated with status lymphaticus. The same pathologic grouping was found in all cases examined of a very unusual series of fulminant bronchopneumonia in boys from 10 to 16 years old. The regularity of this association raises the question whether the fulminant nature of the illness in both groups may not have been due in some way to the influence of the morbid constitution usually termed status lymphaticus, the signs of which were unequivocally present in both groups. There is some evidence that fulminant types of other bacterial infections—scarlet fever and diphtheria—are also accompanied by thymolymphatic hyperplasia or status lymphaticus. In the two groups of fulminant pneumonia, thyroid hyperplasia in a marked degree was present in every case examined (eighteen). This thyroid hyperplasia seems to have existed for some time before death. The regular association of thyroid hyperplasia with thymolymphatic hyperplasia, McNeal suggests, may also be a mark of the same abnormal constitution or diathesis.

38. **Fertilization Time in Women.**—Oliver deduces facts to show that fertilization takes place at practically any time during the intermenstrual period, and that the ovum which is fertilized is invariably that belonging to an approaching menstruation, then because the pregnant uterus at or about the fourteenth day after the first menstrual period is missed, is approximately of the same size in every case, it follows that gestation must begin at a definite and fixed time in the human female. This definite and fixed time, Oliver suggests, corresponds most probably with the time when the preparation for menstruation would under ordinary circumstances have been begun, and consequently when a woman aborts about fourteen days after the inhibition of the first menstrual period the aborted product of conception is only about sixteen days old.

40. **Perforation of Duodenal Ulcer.**—The facts of Struthers' case seem to show clearly that a perforation may occur and be closed by adhesion to the liver shortly afterward, and that the adhesion may persist, in spite of the peristalsi-associated with digestion, of vomiting, of the patient's getting up, etc., that fluid exudate, which must almost certainly have been present, may be absorbed, and any infective element present may be effectively dealt with by the peritoneum. Ten days after the onset of the illness, the abdomen was opened. The pyloric end of the stomach and the transverse colon were found glued to the liver, with some flakes of lymph along the line of adhesion. There was no fluid exudate present. The liver was easily separated from the stomach by gentle manipulation, and nothing of note was found till the first part of the duodenum was reached. As soon as this was separated, a gush of slightly bile-stained fluid escaped through a round hole, 3 to 4 mm. in diameter, toward the superior aspect of the duodenum, just beyond the pylorus. The fluid was mopped up, and the perforation at once closed and inverted with catgut stitches. There was no collection of fluid present elsewhere in the abdomen as far as could be determined. A posterior gastrojejunostomy was then made and the abdomen closed. The patient made an uneventful recovery.

Lancet, London

January 10, I, No. 4715, pp. 87-156

41 Prophylactic Inoculation against Pneumococcus Infections. A. E. Wright.
42 Unpolished Rice and Prevention of Beriberi. H. Fraser and A. T. Stanton.
43 Studies on Growth: Influence of Diet on Growth, Normal and Malignant. C. Funk.
44 *Simple and Successful Measure for Perforation of Gastric or Duodenal Ulcer. E. M. Corner.
45 Heliotherapy of Sciatica. J. J. Grace.
46 Two Cases of Postoperative Hemiplegia. A. W. Jones.
47 Secondary Hemorrhage from Deep Epigastric Artery after Operations for Appendix Abscess. J. O. Skevington.
48 Rupture of Heart by External Violence. A. M. Kennedy.

44. **Perforation of Gastric or Duodenal Ulcer.**—The operation advised by Corner consists of the following steps: (1) Open the abdomen below the umbilicus. Examine the appendix and the pelvic viscera. Place a gauze packing in each loin and in the pelvis and leave them there. Free gas may or may not be seen, but odorless greenish-yellow fluid always is. (2) Open the abdomen above the umbilicus, e. g., through the inner part of the right rectus. Find the perforation, mop out any extravasation above and below the liver or round the spleen. Place one end of a gauze "plug" in the perforation to "cork it." Pack a layer or two of gauze plug over the ulcer and wind the rest round a rubber tube which leads out of the wound. (3) Partially close wounds after removing the gauze (draining the pelvis if there is much extravasation). In the convalescence do not withhold morphin, but do not use it heedlessly. At first withhold liquids by mouth except water in ounce doses. It will wash the interior of the stomach. A patient on "rectal saline" is in no great want of food by mouth. In forty-eight hours the drains or "plugs" are removed under an anesthetic and replaced in part. A gastro-enterostomy is not often needed, and no time is wasted in closing the perforation by suture.

Practitioner, London

January, XCII, No. 1, pp. 1-156

49 Clinical Experiences in Deceptive Symptoms. W. H. Bennett.
50 *Gait in Nervous Disease. D. W. C. Jones.
51 Stomach-Aches Associated with General Infections in Childhood. H. T. Gray.
52 Some Physiologic Principles Concerned in Nutrition of Infants. E. Pritchard.
53 *Acute Intestinal Obstruction as it Concerns General Practitioner. J. Hartley.
54 Jaundice. E. A. Cockayne.
55 Diazo- and Russo-Reactions in Pulmonary Tuberculosis. H. H. Thomson.
56 Practical Points in Sphygmomanometry. G. Oliver.
57 Effect of Hypodermic Injections of Epinephrin on Blood-Pressure. A. Watson.
58 Massage as Therapeutic Agent in Treatment of Neurasthenia. J. B. Mennell.
59 Painful Menstruation. J. Oliver.
60 Some Uses of Electricity in Medicine. A. F. Savill.
61 Recent Work in Surgery. E. G. Gauntlett.
62 Encapsulization as Factor in Pathology. J. B. Pike.
63 Khargeh Oasis as Health Resort. R. Johnson.

50. **Gait in Nervous Disease.**—Abnormalities in gait are all due to loss of well-recognized functions of the several parts of the central nervous system, which consists, in brief, of afferent, efferent and coordinating systems. A tabetic has suffered damage to the parts of the posterior columns of the cord, which transmit sensations from muscles and joints; consequently, he depends entirely on sight for his equilibrium, wastes force by throwing the limbs too high and bringing them violently on to the ground, and assists balance by walking on an abnormally wide base. A patient with cerebellar disease cannot contral the harmonious action of opposing groups of muscles, although quite conscious of his position; he therefore adopts a wide base, and his gait is reeling because he has to attempt to recover his balance when some ill-regulated contraction pulls his center of gravity to one side. If the lesion is unilateral, his inclination is toward the injured side. A hemiplegic patient has rigidity of the whole of one side, and the affected leg is adducted and extended, so that the body must be inclined over to the sound side and the injured limb circumducted. A diplegic patient with the same condition on both sides must do the same with both legs producing the "scissor" gait. A paraplegic patient with less adductor spasm takes short steps, scraping the toes but without crossing the legs. A subject of peripheral neuritis, with paralysis of the dorsiflexors and drooping of the ankle, has to flex the knee and protract the hip so as to lift the drooped foot clear of the ground, thus producing the "steppage" gait. Finally, a patient with paralysis agitans, with rigid limbs and a stooping posture, has to run after his center of gravity with the short steps characteristic of the "festinating" gait. Attention to these considerations enables one in many cases to place the lesion with some accuracy, and Jones claims that the abnormalities in gait, which occur in the different forms of nervous disease, are symptoms of definite diagnostic significance.

53. **Acute Intestinal Obstruction.**—When the sequences of pain, vomiting and relief are present, and accompanied by distention of the stomach, and when the symptoms do not immediately clear up after two or three efficient enemas, given at intervals of an hour or so, especially if the stomach has been washed out at the same time by means of a soft tube, Hartley says, the practitioner will best consult his patient's interests by handing him over to a surgeon without waiting for further signs. If he waits until the abdomen has become distended, he will have enormously increased the difficulties and dangers of operation, and will have correspondingly decreased the chances of his patient. If he still delays until the other orthodox signs and symptoms have developed, namely, until the dry tongue, quick pulse, fecal vomiting, etc., have also become manifest, he will no doubt have made quite certain of his diagnosis, but he may be equally certain that he has almost entirely extinguished the slender chances that remained.

Sei-I-Kwai Medical Journal, Tokyo

December, XXXII, No. 12, pp. 133-138

64 Case of Extra-Uterine Gestation Occurring Twice in One Woman. S. Higuchi.

Journal of Tropical Medicine and Hygiene, London

January 1, XVII, No. 1, pp. 1-16

65 Arthritis in Sprue. G. C. Low.
66 Breeding Places of Sand-Flies (Phlebotomus Spp.) in Anglo-Egyptian Sudan. H. H. King.

Annales de Gynécologie et d'Obstétrique, Paris

December, XL, No. 12, pp. 698-747

67 *Ether in Local Treatment of Peritonitis. Phélip and Tartois.
68 Hypophysis Extract in Obstetric Practice. A. Turenne.
69 *Action on Liver and Kidneys of Stovain Spinal Anesthesia. S. delle Chiaie.
70 *Nascent Formaldehyd in Gynecologic Practice. (De l'impregnation formolée.) C. Le Masson and J. Marchal.

67. **Ether for Lavage of the Inflamed Peritoneum.**—Phélip and Tartois report sixteen cases in which they poured ether into the peritoneum in treatment of peritonitis from appendicitis in children, and they compare the outcome with a corresponding group of patients not treated with the ether. The impression on the whole is quite favorable. The sedative action of the ether was noticeable and welcome after the operation when child patients are usually more or less agitated. There was less tendency to vomit and the children seemed drowsy and quiet. With circumscribed inflammation they used from 30 to 80 c.c. of ether, pouring it into the pus cavity after its evacuation. When the peritonitis was diffuse, they poured 200 c.c. of the ether into the peritoneal cavity. The cavity was always amply drained. In three of the sixteen cases there were complications on the part of the lungs, fatal in two cases. Is it possible, they ask, that the ether could have affected the lungs? Another child had a cavity in the lung before the operation, and it did not seem to be affected in any way by the ether poured into the peritoneum. (In the control group, without ether, one of the children succumbed to postoperative bronchopneumonia.) Another child died from intestinal hemorrhage several days after the abscess had been evacuated and the small cavity rinsed out with ether. In the three other cases the death was the result of secondary ileus. There is nothing to incriminate the ether in the development of the ileus; the most that can be said is that it failed to ward off the ileus. (The ether method of warding off and treating peritonitis was described in THE JOURNAL, Sept. 27, 1913, p. 1082, and recent experiences with it were reported Jan. 24, 1914, p. 281.)

69. **Action of Stovain Spinal Anesthesia on the Kidneys and Liver.**—At the Naples clinic in charge of de Renzi, Jonnesco's method of high stovain anesthesia was applied in a number of cases, and Delle Chiaie examined conditions in regard to the functioning of the liver and kidneys afterward, to determine if the method was fraught with danger for these organs. The particulars of thirteen gynecologic cases studied in detail are given, and the finding emphasized that while the liver did not seem to be harmfully affected by the rachistovainization, the kidneys, if at all pathologic

beforehand, seemed to be seriously injured. Albuminuria was found constantly in all the patients, but it proved briefly transient in the women whose kidneys were known to be sound, while the albuminuria persisted in an aggravated form in the women with pre-existing albuminuria.

70. **Nascent Formaldehyd for Local Treatment of the Vagina.**—Le Masson and Marchal describe means by which formaldehyd fumes may be generated in the vagina for effectual sterilization by the action of formaldehyd on potassium permanganate crystals. A teaspoonful of each plus one of water is the usual formula. The 40 per cent. formaldehyd solution can be poured on the cystals on a layer of cotton in a stout atomizer bottle, pumping the fumes into the vagina as they are generated in the glass. The simplest method is to pour a few drops of the fluid on the crystals wrapped in a square of gauze and introduce the moistened wad inside a speculum already in place in the vagina. They state that the formaldehyd fumes are neither toxic, caustic nor painful, causing merely a slight smarting sensation.

Annales de Médecine et Chirurgie Infantiles, Paris

December 24, XVII, No. 24, pp. 813-848

71 Brain Tumors in Children. L. d'Astros. Commenced in No. 23.

Journal de Chirurgie, Paris

December, XI, No. 6, pp. 693-880

72 *Results of Treatment of Rectal Cancer. H. Hartmann.
73 Fracture of the Scapula. (Fractures du col chirurgical de l'omoplate.) J. Tanton.

72. **Cancer of the Rectum.**—Hartmann states that the records from eighteen surgical clinics, including his own, show with the low operative technic an immediate mortality of 15.8 per cent. in 1,665 operative cases of rectal cancer; 68 per cent. of the survivors succumbed to recurrence in a few years. This shows that 84 per cent. of the patients with rectal cancer operated on by the direct technic are destined to die within a comparatively short period. The outcome is decidedly better when the low technic was supplemented by a laparotomy, the immediate mortality in 260 cases being only 37 per cent. and the later mortality only 18 per cent. The aim should be, therefore, to perfect the technic for the combined operation, and Hartmann gives a number of suggestions, advising the laparotomy as the first step and closing with colostomy, excluding from the operation patients over 60, the obese, and those with defective kidneys, and removing with the cancer all the linked lymphatics.

Journal d'Urologie, Paris

December, IV, No. 6, pp. 893-1032

74 Staphylococcus Sepsis of Urinary Origin. (Staphylococcémies.) F. Legueu.
75 *Intravesical Treatment of Tumors with the High Frequency Current. M. Heitz-Boyer.
76 *Tests of Kidney Functioning when Ureter Catheterization is Impossible. E. Pirondini.
77 Wind-Up of Treatment of Gonorrhea. (La fin du traitement de la blenorrhagie.) J. Janet.

75. **Treatment of Tumors in the Bladder by the High Frequency Current.**—Heitz-Boyer credits Beer with great progress in this line, but regards his own spark technic, *étincelage*, as more effectual and more certain than the electrocoagulation method. The spark is applied without direct contact, and he has found it extremely satisfactory in treatment in seventy cases of tumor in the bladder. He gives thirteen illustrations showing the different types of tumor encountered, and the way to reach the pedicle and thus remove the tumor at one stroke, or, by destroying radiating strips in the tumor, to create pedicles which can be severed in turn.

76. **Tests of Kidney Functioning.**—Pirondini's forty-page article reviews the literature on the subject especially when the ureters are not permeable, summarizing the views of leading urologists. If the kidney functioning as a whole is much below par he advises to refrain from removing a diseased kidney, as it is evident that either both kidneys are diseased or that the supposedly sound kidney is insufficient. If the kidney functioning as a whole is still good, the diseased kidney can generally be safely removed. The safety is greater the better the functioning as a whole when one kidney is known to be very seriously diseased. Intravesical segregation of the urine from each kidney is not a reliable means of investigation as a rule, unless the findings are clear and constant on several examinations. Chromocystoscopy may prove useful, permitting a guess at the functioning of the kidneys, and it sometimes aids in permitting catheterization of the ureters. If none of the above are practicable, the only way to obtain an insight into kidney functioning is by direct inspection of the supposedly sound kidney and the upper portion of its ureter or ureterostomy on this side or catheterization of the ureter after opening the bladder. The latter seems preferable to exploratory incision on both sides to expose both kidneys in turn. This does not permit examination of the urine.

Lyon Chirurgical, Lyons

November, X, No. 5, pp. 525-536

78 *Madelung's Deformity of the Wrist of Tuberculous Origin. (Radius curvus.) M. Cantas.

78. **Acquired Deformity of the Wrist.**—In the case reported by Cantas, the deformity of the wrist was manifestly the result of an inflammatory process from the toxic action of tuberculous infection. The process had evidently run the typical course of first softening of the bone and then a hardening inflammation. The deformity was corrected by resecting a segment of the ulna, pushing the radius back into place and immobilizing with plaster for a month.

Presse Médicale, Paris

December 24, XXI, No. 104, pp. 1049-1056

79 Insufficiency of the Liver as Factor in Hematemesis with Cirrhosis. A. Gouget and R. Pierret.
80 Antitoxin Content of Normal Serum. L. Bory.

December 27, No. 105, pp. 1057-1068

81 Starch Diarrhea in Infants. (La diarrhée des féculents.) V. Hutinel.

Revue de Médecine, Paris

December, XXXIII, No. 12, pp. 921-1006

82 Cancerous Meningitis; Twenty-Four Cases. Humbert and Alexieff.
83 *Osteomalacia. S. Bonnamour and A. Badolle.
84 Action of Theobromin and Sodium Salicylate on Edema. A. Kakowski.

83. **Osteomalacia.**—Bonnamour and Badolle conclude from their extensive research that osteomalacia is not due to any one single cause, but may be regarded as a syndrome originating either from infection, from disturbances in internal secretion, or from abnormalities of nutrition. The nervous system may reenforce either one of these original causes, either reflexly or through the vascular system, but it does not seem in itself to cause osteomalacia. The most evident and most incontestable result of osteomalacia is the decalcification of the bones, the loss of lime being manifested in the abnormally large proportions of lime found in the blood, urine and stools. Determination of the proportion of lime in the blood is thus useful both for diagnosis and prognosis.

Archiv für Gynaekologie, Berlin

C, No. 2, pp. 273-512. Last indexed Jan. 17, p. 243

85 Air Embolism in Obstetrics. T. Ilyin.
86 Weight First Twelve Days after Birth. (Die Gewichtsverhältnisse reifer norwegischer Neugeborener.) G. Benestad.
87 *Action of Hypophysis Extract from Castrated Animals. E. Kleemann.
88 *Displacement of Cecum during Pregnancy. H. Füth.
89 *Amenorrhea and Tuberculosis. M. Friedrich.
90 Bone Production in Fallopian Tube. L. W. Strong (New York).
91 *Kidney Complications in Pregnancy of Serious Import with Heart Disease. R. T. Jaschke.
92 Paravulvar Melanosarcoma. H. Offergeld.
93 *Pregnancy Pyelitis; Serologic and Clinical. W. Weibel.
94 Eosinophil Leukocytes in Inflammatory Infiltrates, Especially with Uterine Cancer. E. Weishaupt.
95 Hypophysis Extract in Obstetrics. (Pituitrin in der Geburtshilfe.) H. Oppenheimer.

87. **Action of Hypophysis Extract from Castrated Animals.**—Kleemann's experiments with hypophysis extract from various animals after removal of the ovaries or testicles, or merely of the corpora lutea, demonstrated that the effect was the same with six of the normal and the castrated animals, but that the effect differed materially when the extract was

taken from the hypophysis of a gravid animal. The extract obtained from gravid animals sometimes had a dilating and sometimes a constricting action on the vessels. He suggests that the contradictory experiences with hypophysis extract that have been reported may be explained by the fact that the extract in some cases came from an animal that was or had recently been gravid.

88. **Appendicitis during Pregnancy.**—Füth emphasizes the liability to errors in the diagnosis of appendicitis during the later months of pregnancy as the cecum is lifted up by the uterus so that the appendix is found high above its normal location. The conditions with pregnancy also favor development of more serious complications as he shows by a recent case in which pus flooded the field at the appendicectomy and the dead five months' fetus had to be removed by vaginal cesarean section.

89. **Amenorrhea and Tuberculosis.**—Friedrich found amenorrhea in 45 per cent. of forty-two women in the first stage of pulmonary tuberculosis; in 64 per cent. of ninety in the second stage and in 85 per cent. of sixty-eight in the third stage. She also reports that the lipoid content of the blood was found abnormally high in gravid rabbits, and still higher proportionally in pregnant women. She suggests that this lipoidemia may explain the frequent aggravation of tuberculosis by a pregnancy, and that it may possibly serve in the diagnosis of pregnancy.

91. **Kidney Complications in Pregnancy.**—Jaschke states that kidney affections were responsible for 27 per cent. of the mortality among the women with heart disease as reported from various maternities (31 of the 114 deaths). Fellner has also recently reported the fatal outcome of the pregnancy in 32 per cent. of his patients with heart disease plus nephritis. Valvular affections predominated. Jaschke regards it as immaterial whether the kidney trouble is recent or of long standing. If the kidney affection in a pregnant woman with heart trouble is accompanied by high blood-pressure, the pregnancy should be interrupted without delaying too long, as this is generally the only chance of saving the patient.

93. **Pregnancy Pyelitis.**—Weibel states that eighteen of the twenty-six women with pregnancy pyelitis proceeded to term with living children; five others had living children born prematurely; one woman aborted, and one developed eclampsia. All the women recovered, and he ascribes these comparatively good results to the routine treatment of direct medication of the kidney pelvis, refraining from operative measures. In 100 normal pregnant women he found the ureters more or less obstructed in 47 per cent., and predominantly on the right side.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXIX, No. 2, pp. 113-278. Last indexed Jan. 17, p. 244

96 *Flat Diagram of Thorax. (Planithorax.) H. B. Sandberg.
97 *Tuberculous Rheumatism; Masked Tuberculosis. E. Nohl.
98 *Conditions Regulating Phagocytosis. A. Kirchenstein.
99 *Multiple Scarification Technic for Tuberculin. M. Dübi.
100 *Alcoholism and Tuberculosis. Holitscher.
101 Beneficial Influence of Impeded Circulation with Therapeutic Compression of One Lung. O. Bruns.
102 Copper Treatment of Tuberculosis. (Erfahrungen mit der Kupferbehandlung bei innerer und äusserer Tuberkulose.) H. Eggers.
103 *Spinal Anomalies as Predisposing to Pulmonary Tuberculosis. (Bedeutung von Wirbelsäulenanomalien.) N. Küchenhoff.

96. **Plane Projection of the Thorax.**—Sandberg says that the general practitioner is too apt to neglect the axilla in examining the thorax. To combat this he has worked out for clinical records a plane projection of the upper part of the trunk, front and back, divided into six vertical fields, two of which represent the axillae.

97. **Masked Tuberculosis.**—Nohl gives the details of eight cases in which the final course showed that the pains and aches must have been the work of attenuated tubercle bacilli, a tuberculous rheumatism. He agrees with Poncet that the first thing in a case of rheumatism is to exclude tuberculosis. A rheumatic affection with a dragging course, tendency to ankylosis and lack of response to salicylates is suspicious of tuberculosis, especially when the general health suffers more than can be explained by any local process that can be discovered. It is better to err on the side of treating true rheumatism for tuberculosis than to neglect the measures necessary to combat the tuberculosis. The tuberculous rheumatism may manifest itself in various ways, from all forms of arthralgia up to the severest type of bony ankylosis. The tuberculous joint affection may subside and some visceral or pulmonary lesion then become manifest, or the joint trouble may come on as a visceral or pulmonary tuberculous process becomes inactive.

Nohl describes in detail nine cases which illustrate different types; the patients were between 17 and 30 except one woman of 35. The first symptom in one case was dysmenorrhea at times for a year and a half with pains in the joints; then acute peritonitis developed with severe paroxysmal pains but gradually subsided, leaving subfebrile temperature and constipation. A brief attack of pleurisy with effusion followed. The patient was treated as for tuberculosis, and she has been in good health for over two years now except for occasional rheumatic pains at various points. The trouble began in the second case with the syndrome of gout or subacute articular rheumatism, with severe pains in muscles and nerves, moderate fever, paroxysmal coughing, foamy sputum, râles, etc., all subsiding and returning at intervals. Then all these symptoms subsided and attacks of bronchitis followed, with continuous slight fever and at night symptoms of angina pectoris without weakness of the heart, and finally peritonitis with effusion. No tubercle bacilli were found at any time and inoculation of animals was negative, although years before the patient had had an apical tuberculous affection which subsided to a clinical cure under a course of tuberculin treatment.

98. **Phagocytosis of Tubercle Bacilli.**—Kirchenstein concludes from the comprehensive research which he reports that the essential causes of phagocytosis are of electrochemical nature.

99. **Scarification Technic for Tuberculin Treatment for Tuberculosis.**—Dübi analyzes twenty-five cases of pulmonary tuberculosis with tuberculin treatment by Sahli's method of multiple scarifications. To render the technic more uniform, he used a set of twenty-five needles mounted in a stamp, all pricking the skin at once. A drop of tuberculin in the desired dilution is dropped on the group of minute holes thus made, and a transient reaction follows. The true tuberculin reaction does not develop for about half a day or possibly not until after one or two days. By this method the area to which the tuberculin is applied is much larger than with other technics, and a weaker concentration can be used. This reduces to the minimum the general reaction while the absorption is more complete. He says that it is thus possible with effectual therapeutic doses to avoid any febrile reaction at any time through the long course of treatment, even in patients who always react with fever to corresponding or even smaller doses by the subcutaneous route.

100. **Alcohol and Tuberculosis.**—Holitscher sent out 7,300 question blanks for physicians connected with tuberculosis sanatoriums to fill out, one for each patient, giving the details in regard to the tuberculosis and drinking of spirituous liquors in the individual case and in the recent and remote family history. He was much disappointed that English physicians ignored his request, only Sweden, Norway and Hungary cooperated in the research, but he received a total of 3,000 filled-out blanks. The data show that the tuberculous do not become hard drinkers as a rule, but that persons addicted to alcohol are particularly liable to contract tuberculosis.

103. **Anomalies of the Spine Predisposing to Pulmonary Disease.**—Küchenhoff declares that too little regard is paid to the shape of the spine as providing a mechanical predisposition to apical lesions. When the upper part of the spine curves forward, the spinous processes project downward and encroach on the apex space, so that even slight kyphosis of the upper spine interferes materially with the circulation in and expansion of the apices. He gives two portraits of "round-shouldered" men as types of the anomaly in question, emphasizing that while tuberculous processes elsewhere in the lung

usually display a tendency to heal, those in the apex, handicapped by these mechanical conditions for which the spine is responsible, are unable to oppose adequate resistance to the infection.

Berliner klinische Wochenschrift

December 29, L, No. 52, pp. 2409-2432

104 *The Spleen in Pernicious Anemia. (Zur Pathologie der Milzfunktion. II.) H. Eppinger.
105 Ozena a Contagious Disease; Vaccination. F. Perez and G. Hofer.
106 *Stomach Functioning Not Directly Modified by Loss of Gall-Bladder. W. Boss.
107 Granular Atrophy of the Kidneys in Children. C. Jacobs.

104. **Splenectomy for Pernicious Anemia.**—Eppinger quotes five other clinicians who have reported constantly favorable results from removal of the spleen in treatment of pernicious anemia. He here discusses the mechanism of the benefit derived, his research indicating that the blood-vessels in the spleen are modified in a peculiar way which permits the red corpuscles to escape into the pulpa, where they are destroyed. The normal way through the capillaries seemed to be obstructed in the seven spleens he has removed for pernicious anemia. When the red corpuscles escape into the pulpa and thus come in contact with connective tissue and die off, the conditions are much like those with hemorrhage from an artery; removing the spleen puts an end to the process, and it is possible also that merely ligating the splenic artery would answer the same purpose. This should be reserved for cases in which there are objections to removing the spleen. He calls attention further to the possible occurrence of "blood lymph-nodes," *Hämolymphdrüsen*, in cases of pernicious anemia; they seem to be of a structure analogous to that of the spleen, and seem to be able to compensate for the lack of the spleen. They are found in many animals, and he has noticed them in profusion in cases of pernicious anemia. When benefit does not follow splenectomy, it is more than probable that these blood-lymph-nodes are carrying on the pernicious activity of the spleen. Special attention should be paid to them in all cases of pernicious anemia, but the possibility of their presence, he reiterates, should not bring discredit on splenectomy as the most important measure in treatment of pernicious anemia.

106. **The Gall-Bladder and the Chemistry of the Stomach.**—Boss gives the stomach findings in nine cases from one to five years after removal of the gall-bladder, and also in eleven cases in which the chemistry of the stomach was examined before the gall-bladder was removed. The findings fail to confirm the assumption that conditions in the gall-bladder and its outlet influence secretion in the stomach; there was hyperacidity in some and hypoacidity in others. In still others gastric secretion was entirely normal although the biliary apparatus was totally obstructed.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 27, XLIII, No. 52, pp. 1721-1752

108 Treatment of Abortion. H. Meyer-Ruegg.
109 From the Balkan War. F. Rusca. Commenced in No. 51.

Deutsches Archiv für klinische Medizin

CXIII, Nos. 1-2, pp. 1-208 Last indexed Jan. 17, p. 245

110 *Effect of Long Continued Excessive Carbohydrate Diet without Albumin on Metabolism in Man and Animals. E. Grafe.
111 Cerebrospinal Fluid in Tuberculous Meningitis. Mandelbaum.
112 *Influence of Carbohydrate Diet on Nitrogen Metabolism in Infectious Fevers. Pfannmüller.
113 Leukemia, Especially the Acute Form. L. Beltz.
114 Dilatation and Decreased Contractility of the Heart as a Result of Over-Exertion. (Wesen der Herzschwäche infolge von Ueberanstrengungen.) O. Bruns.

110. **Effect of Excessive Carbohydrate Diet on Metabolism.**—Many experiments have been performed to show the effect of large amounts of carbohydrates given at one time, and of a long-continued excess of carbohydrates given with albuminous food. But Grafe undertook the giving of large amounts of carbohydrates without albumin in order to determine the part played by nitrogenous food in forming reserve material and especially in the transformation of carbohydrates into fat. The experiments were carried out on pigs, dogs and human beings. There was no increase in weight and in several cases there was a decrease. This seemed to be explained by an increased output of water and increased oxidation. The reserve material laid up was almost entirely dry matter. The addition of albumin to the carbohydrate diet immediately changed the negative water balance into a decidedly positive one. The intensity of oxidation remained about the same, but in dogs the formation of fat from sugar seemed to be increased. Tables are given showing in detail the weight, nitrogen balance, water balance and heat production in the different experiments.

112. **Effect of Carbohydrates on Metabolism in Fever.**—It has long been known that there is an extensive loss of nitrogen in fever. Pfannmüller undertook to find out to what extent this could be reduced by the feeding of carbohydrates. In a healthy man with no fever he found that by giving 500 gm. sugar the nitrogen output was reduced approximately 10 per cent. He describes, giving tables and temperature charts, three febrile cases in which he fed sugar and rice, as compared with a healthy control. He found that with this he could not only compensate for the excessive nitrogen output but that it was actually reduced to lower figures than in the healthy individuals.

Deutsche medizinische Wochenschrift, Berlin

December 25, XXXIX, No. 52, pp. 2545-2576

115 *Asphyxia. (Behandlung der Asphyxie nach Erhängen, Ertrinken, Verbluten, Intoxikation, Einatmung irrespirabler Gase.) Grober.
116 *Treatment of Dilatation of the Esophagus. H. Starck.
117 Treatment of Cleft Palate. (Die Brophysche Gaumenspaltenbehandlung.) E. Kaerger.
118 Radiotherapy of Cancer. (Ersparnis an strahlender Energie bei der Behandlung des Inoperablen Karzinoms.) R. Klotz. (Ersatz radioaktiver Substanzen durch Röntgenstrahlen bei der Tiefentherapie.) Salzmann.
119 Oxidase Reaction in the Cerebrospinal Fluid. S. Szecsi.
120 Serodiagnostic of Cancer. K. Hara.
121 Leukocyte Count. (Technik des Blutausstriches und eine neue Differentialzähltafel für Leukozyten.) Arneth.
122 Return of Normal Menstruation for Three Years at 72. (Auftreten der Menstruation im Klimakterium.) S. Levy.

115. **Asphyxia.**—Grober says that fortunately in this condition the term "asphyxia," which means "not beating," is a misnomer as the main trouble is with the lungs which are unable to get enough air to work on. The heart may keep on beating faintly for a long time. The radial pulse may be imperceptible while a pulse can still be felt in the carotid. He discusses the asphyxia from hanging, drowning, excessive hemorrhage, intoxication and breathing of suffocating gases. After removing the cause of the asphyxia, the heart must be sustained, and the best means for this is by subcutaneous injection of camphor, injecting 1 c.c. at two, three or four different points of the body.

In severe asphyxia it is better not to attempt to give anything by the mouth. If the circulation is almost at a standstill, the camphor will not be absorbed, but by starting up the circulation by other means there will be this available reserve of stimulant for the heart. Artificial respiration should then be started.

The apparently drowned must have mud and slime wiped out of the mouth, prying open the jaws if necessary for the purpose. When the patient has been buried under sand or dirt, this clearing out of the mouth is particularly important. Tracheotomy may be necessary and this can be done on the unconscious patient without general anesthesia and, owing to the weakness of the heart, without fear of much hemorrhage. Saliva, mucus and foreign particles are liable to accumulate at the entrance to the air passages during the course of artificial respiration, and such accumulations should be wiped out at intervals. The natural respiration can be promoted and expiration increased by rhythmic pressure on the lower ribs or upper abdomen. The elasticity of the chest in the young provides sufficient inspiration when the pressure is relaxed, but this is not sufficient for the elderly. It is useful at intervals, during systematic artificial respiration to rest the workers. Grober has also found useful sometimes a method of working on the diaphragm by raising the seat so that the pubis forms the highest point of the body; both legs are then lifted together, flexed at knee and hip, and

pressed against the abdomen. This forces the relaxed abdominal walls and the intestines upward and against the diaphragm which bulges upward also and the air is thus expelled from the lungs. Drawing the legs down again and spreading them slightly expands the lungs again in turn.

There is great loss of body heat during asphyxia so that provision must be made for warmth, hot bottles, hot stones and blankets, supplemented by rubbing the extremities to aid the circulation, flexing rhythmically the knees and elbows to reduce the stagnation of blood. If the heart action grows weaker the pauses in the artificial respiration must be utilized to give heart stimulants. The last resort is massage of the heart, tapping with the palm or striking with the fist the chest wall over the heart, once a second. When this failed, some surgeons have reported success from direct massage of the heart, opening the abdomen for the purpose. There is danger of collapse later, when the patient is apparently out of danger, consequently he must be kept under close supervision, even after mild asphyxia.

116. **Treatment of Dilatation of the Esophagus.**—The main principles of Starck's treatment of patients with diverticulum or dilatation of the esophagus were summarized from the first part of his article, abstracted in these columns January 31.

Medizinische Klinik, Berlin

December 21, IX, No. 51, pp. 2099-2140 and Supplement

123 Scrofula and Its Treatment. Engel.
124 *Chondroiturin with Kidney Lesions. (Zur Diagnose okkulter tonsillogener Nierenläsionen.) H. Pollitzer.
125 Partial Facial Paralysis. M. Bernhardt.
126 Neosalvarsan in Syphilis. J. Fabry.
127 Heliotherapy of Tuberculosis. H. v. Schrötter.
128 Action of Hydrogen Dioxid on Metals. (Wirkung des Wasserstoffsuperoxyds auf Metalle.) W. Eichholz.
129 Sudden Fatalities in the Water due to Perforation of Tympanic Membrane. (Die kalorische Alteration des Ohrlabyrinths bei offener Paukenhöhle als mögliche mittelbare Ursache des plötzlichen Todes beim Baden.) O. Muck.
130 Bacteriology of Atypical Typhoid. G. Wagner.
131 Treatment of Skin Diseases by Non-Specialist. J. Schaffer.

124. **Diagnosis of Kidney Lesions of Occult Tonsillitic Origin.**—Pollitzer recommends testing the urine for chondroitic acid as well as for albumin in case of kidney trouble in the young. The chondroitic acid, he says, seems to be a sign that the kidneys are suffering from the effects of infection. This is almost always traceable to the tonsils, and by systematic massage of the tonsils or by tonsillectomy the source of the trouble can be removed. He called attention recently to the fact that the urine in young persons with orthostatic albuminuria and in certain other conditions in which the urine is clinically free from albumin, becomes intensely turbid when treated with serum albumin in an acetic acid solution. This reaction is due to the presence of chondroitic acid. He gives an illustrated description of the simple technic for the test, and its mechanism.

Münchener medizinische Wochenschrift

December 30, LX, No. 52, pp. 2905-2928

132 *Pain in Shoulder with Pleurisy. (Schulterschmerz bei Pleuritis.) D. Gerhardt.
133 *The Specific Nature of the Abderhalden Protecting Ferments. (Spezifität der Abwehrfermente.) W. Meyer.
134 *Exercise of the Muscles by Electricity. (Zur Kritik der modernen elektrischen Entfettungskuren.) L. Roemheld.
135 Case of Fibriosis of the Eye. Rauenbusch.
136 Arrest of Obstetric Hemorrhage. (Ein vergessener geburtshilflicher Handgriff.) E. Gräf.
137 Patient's Serum as Vehicle for Neosalvarsan. E. v. Schubert.
138 Conservation of Scarlet Fever Convalescent Serum. R. Koch.

132. **Misleading Pains in Pleurisy.**—In the course of two recent years seven patients were sent to Gerhardt's surgical service to be operated on for appendicitis, when the trouble proved to be merely abdominal pains ushering in pneumonia. In four other cases the pains were in the shoulder, and one patient had been treated for a supposed shoulder joint-trouble. In all four cases the friction sounds of pleurisy were evident but only over the lowest part of the inferior lobe. In one case there was an infarct in the lower lobe but the pleurisy caused no effusion and the pains in the shoulder subsided in about twelve hours. In two of the patients the pleuritis was secondary to pneumonia of the inferior lobe, and the pains in the shoulder lasted only for twenty-four hours. The fourth patient had chronic pleurisy without effusion and the pains in the shoulder kept up for two weeks. This isolated pain in the shoulder with diaphragmatic pleurisy is evidently connected with an irritable condition of the sensory fibers of the phrenic nerve. Its practical importance lies in the necessity for differentiating the primary pleuritis when pain in the shoulder suggests a joint process. Tenderness of the nerve may aid; the location and spread of the pain are like those with neuralgia of the phrenic nerve except that the nerve trunk is usually involved in the latter while with the pleurisy the terminals are the seat of the trouble.

133. **Specific Action of the Abderhalden Defensive Ferments.**—Mayer states that his experience in 110 neurologic and psychiatric cases has confirmed the specific nature of the enzymes involved and the results of the experimental research he reports corroborate this further. They also show that for clinical diagnosis, organs from another species may be utilized. He says that the contradictory results reported by some writers may be due to the fact that they did not give the ferments time to develop. He allowed four, five and seven days, and found then an absolute organ specificity in the rabbits.

134. **Electric Treatment of Obesity.**—Roemheld has treated twenty obese patients with electric exercising of the muscles, but did not witness any reduction in weight greater than what was realized with ordinary dietetic restrictions without the "bergonizing." The main thing in treatment of obesity is and must be regulation of the diet, and Bergonié himself only regards the electric passive exercise as one factor in the treatment of obesity.

On the other hand, Roemheld thinks that the electric passive exercise is destined to prove of great importance as a means of exercising the muscles in heart disease. With careful application, the method does not increase the blood-pressure or show any other deleterious action, while it is an excellent means of exercising the muscles. It is useful for the same reasons in cases of disturbance in the peripheral circulation with reduced tonus of the vessel. It is also a practical and efficient means to strengthen and give tone to the abdominal and pelvic muscles after a childbirth, as already mentioned in these columns, Nov. 29, 1913, p. 2024.

Wiener klinische Wochenschrift, Vienna

December 25, XXVI, No. 52, pp. 2121-2128

139 *Appendicitis in the Elderly. J. Philipowicz.
140 *Sagging Chest. (Thoraxsenkung.) L. Hofbauer.

139. **Appendicitis after Fifty.**—Among 1,080 patients with appendicitis at von Eiselsberg's clinic since 1905, twenty-nine of the patients were between 51 and 72. The inflamed appendix was found in a hernia more frequently among the elderly, but incarceration of the appendix causes less disturbance than when a loop of intestine is involved. In four cases the insidious onset with extreme emaciation and signs of obstruction of the intestine in three cases and even blood-stained stools in one instance, suggested cancer in the large intestine, but the whole trouble subsided after removal of the chronically inflamed appendix. In the fourth case the only symptoms were from the stomach; the insidious course, emaciation, tenderness in the epigastrium, hyperacidity and lactic acid in the stomach content, and dubious roentgenoscopic findings pointed to gastric cancer, but all disturbances ceased after appendicectomy, the chronic appendicitis having entailed adhesions between the ascending colon and the duodenum.

140. **Attitude of the Chest Predisposing to Disease.**—Much attention has been attracted to Czerny's recent statement that he has scarcely ever found apical tuberculosis in narrow-chested children while, on the contrary, he has found it common in children with unusually full, expanded chests. The chest in the latter group is inflated to the utmost and keeps inflated, the air not being adequately expelled from it. Hofbauer's experience has confirmed this and also the predisposition to apical processes induced by the lack of expiration of the air. Health depends on elastic filling and emptying of the air

passages, thus providing for proper circulation of air, blood and lymph. When the apex is kept permanently still, the conditions favor disease, regardless of whether the immobilization is from persisting expansion or from persisting lack of air. He calls attention to the harm that may be done by exercises in deep breathing without providing for thorough emptying of the lungs. Laymen are fond of these deep-breathing exercises, but they do not realize the necessity of equally deep expiration. As the exercises are frequently done, they afford an actual predisposition to tuberculosis rather than the reverse.

The defective participation of the muscles in the act of expiration has an injurious influence on the abdomen also. When the front of the chest sags, the abdominal walls below sag with it and conditions favoring enteroptosis develop. By training the muscles of expiration, the abdominal wall regains its elasticity and the normal play of the elastic forces throughout is restored. As Hofbauer expresses it, correction of the dynamics restores normal statics in the thorax.

Zeitschrift für Kinderheilkunde, Berlin

IX, No. 6, pp. 415-493. Last indexed Jan. 31, p. 421

141 Analysis of the Viscera in Scorbutus. (Organanalysen bei Barlowscher Krankheit.) H. Bahrdt and F. Edelstein.
142 Eosinophilia in Infants a Symptom of the Exudative Diathesis. H. Putzig.
143 *Stomach Digestion in Infants. H. Davidsohn.
144 Boy of 13 Never Learned to Swallow Solid Food. (Nährschaden durch psychogene Perseveranz auf Milchkost.) T. Goett.

143. **Stomach Digestion in Infants.**—Davidsohn describes in detail his methods of examining the contents of the infant's stomach, and calls attention to the fact that the reaction is much less strongly acid than in the normal adult stomach. This weakly acid reaction is the one most favorable for coagulation, for lipolysis and casein digestion. Digestion takes place in two stages, first coagulation and then digestion of the fat. The maximum of coagulation is reached about forty-five minutes after ingestion of the milk. Contrary to the condition in adults, there is no backward flow of pancreatic juice into the infant's stomach. But there is a lipase secreted in the stomach itself which has marked fat-splitting properties. The higher the fat-content of the milk the longer it stays in the stomach.

Zentralblatt für Chirurgie, Leipsic

December 27, XL, No. 52, pp. 1985-2136

145 Gangrene of the Feet from Exposure to Cold. (Zur gefässparalytischen Kältegangrän im Balkankrieg.) Wieting.
146 Advantages of Supplementing Laryngectomy with Gastrostomy. F. Torek (New York).
147 Fascia Flap for Operation on Club-Foot. S. Kofmann.

January 3, XLI, No. 1, pp. 1-48

148 Field of Operation Made Sterile with Varnish Covered with Gauze. (Mastisol-Abdeckungsverfahren.) E. Dietsche.
149 *Protection of Thiersch Flaps with Cork Paper. A. Wydler.
150 *Operative Treatment of Movable Cecum. C. Francke.

149. **Cork Paper for Protection of Thiersch Flaps.**—The extremely thin sheets of cork paper such as are used for the tips of cigarettes have proved of great assistance in the management of Thiersch flaps at de Quervain's clinic during the last six years. The sheets of cork tissue are 10 by 15 cm. in size, and 1/100 or 1/10 mm. thick; they are porous, flexible, and can be sterilized with the dressings in steam. They can be fitted to almost any surface and the dressings do not stick to them so much as to some substances. The cork paper is applied at once after the grafts are in place, and it is left as a rule until it is spontaneously cast off. The dressings above it can be changed as desired but they are generally left undisturbed for six days.

150. **Operative Treatment of Movable Cecum.**—Francke shortens an abnormally long cecum by running three or four fine silk threads lengthwise of the gut over a space of about 8 or 10 cm., taking each stitch about 1 cm. long, at intervals of the same length. Each silk thread is then tied separately. This puckers up the gut, folding it in and out like a harmonica, and shortens its length by one-half as desired, curing all tendency to sagging or torsion, while leaving the gut still freely movable in its place.

Zentralblatt für Gynäkologie, Leipsic

December 27, XXXVII, No. 52, pp. 1869-1944

151 Streptococci from Vagina Subordinate Factors in Puerperal Fever. (Aetiologie und Prophylaxe der endogenen puerperalen Infektion.) M. Traugott.
152 Appendix Torn Off in Curetting Uterus; Recovery. I. Braude.
153 Inversion of Puerperal Uterus. W. Jonas.

January 3, XXXVIII, No. 1, pp. 1-64

154 Credits in Examination in Obstetrics and Gynecology. O. Küstner.
155 Three Days the Limit of Survival of Active Spermatozoa in Supravaginal Genital Organs. (Lebensdauer homologer und heterologer Spermatozoen im weiblichen Genitalapparat und in der Bauchhöhle.) O. Hoehne and K. Behne.
156 *Fascia Sling for Prolapsed Uterus. G. Schubert.
157 Radiotherapy of Cancer. Flatau.
158 Acromegaly and Ovarian Therapy. H. Bab.

156. **Fascia Sling for Total Prolapse of Genital Organs.**—Schubert says that the usual methods for correction of prolapse do not go to the root of the trouble, that is, the relaxed and sagging condition of the fascia supports of the uterus. This insufficiency of the fascia supports is not remedied by the usual fixation of the organs or shortening of ligaments. He has applied in six cases a method by which two strips of fascia taken from the abdominal wall are passed around the uterus and across the cervix and crossed again over the symphysis, suturing them along their course and drawing up tissue over them to leave no recess at any point into which a loop of bowel might slip. He operates through a transverse incision. The method has been applied to date only where there was no further chance of a pregnancy. He proposes where the uterus is still functionally capable to modify the technic, making the fascia sling by drawing the fascia strip across the pelvic inlet and suturing it to the rear of the ligament. The fascia lata could also be utilized.

Zentralblatt für innere Medizin, Leipsic

January 3, XXXV, No. 1, pp. 1-32

159 The Fever after Vaccination. R. v. Jaksch.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXXIV, Nos. 151-155, pp. 1583-1638

160 Visiting Days in the Public Hospitals. R. Maffei.
161 *Glandular Fever or Follicular Diphtheria? (Febbre ganglionare e cripto-difterite.) P. Galli.
162 Cultivation of Pathogenic Protozoa. E. Bertarelli.

161. **Diphtheria Simulating Glandular Fever.**—Galli remarks that while the course of Pfeiffer's disease is generally mild yet occasionally it assumes a graver form, the fever persisting long past the usual four or five days and the system showing the effects of extreme intoxication. This syndrome, he is convinced, is the work of diphtheria bacilli. They do not settle in the throat as usual but start trouble in the cervical lymph-nodes. He reports seven cases of this type, the onset stormy, the toxic action increasing up to the fifteenth day, with prostration, but no signs of diphtheric false membranes or other characteristic findings in the throat. Smears from the nasopharynx disclosed bacilli resembling diphtheria bacilli, and the children began to improve at once on injection of antitoxin. He says the syndrome might well be called follicular diphtheria. The swollen and painful glands were always those back of the sternocleidomastoid muscle in each case; none elsewhere seemed to be involved in the process.

Policlinico, Rome

December 21, XX, No. 51, pp. 1841-1876

163 Ptosis of Eyelids from Syphilitic Meningitis. G. Artom.
164 *Tendon Substitute for Patella. (Trapianto tendine-aponeurotico in sostituzione della rotula estirpata.) M. Fasano.
165 *Serodiagnosis in Undulant (Malta) Fever. N. Salvatore.

164. **Tendon Flap as Substitute for the Patella.**—Fasano states that the functional results now eight years after the operation are as fine as they were at first in the case he reported in 1908 in which he replaced the patella, destroyed by an osteomyelitic process, by a flap cut from the tendon of the quadriceps above and turned over with the raw side out. The flap was sutured in place and has answered its purpose perfectly to date. Somewhat similar operations on dogs have given equally good and durable results.

165. **Agglutination in Malta Fever.**—Salvatore tabulates the responses to the agglutination test in eighty persons with symptoms suggesting Malta fever at Palermo. They confirm the experiences of others to the effect that agglutination at 1/40 may be regarded as specific for the *Micrococcus melitensis* if the typhoid and colon bacilli do not agglutinate at this dilution.

Riforma Medica, Naples

December 20, XXIX, No. 51, pp. 1401-1428

166 Vesicular Murmur and Bronchial Respiration in Health and Disease. P. Bueri.
167 Hypertrophy of the Prostate and Operative Treatment; Thirteen Cases. G. Monzardo. Commenced in No. 50.
168 Relapse in Typhoid Fever a Reinfection. G. D'Aloia.

Rivista Ospedaliera, Rome

December 15, III, No. 23, pp. 1021-1078

169 *Strangulated Hernia; 164 Cases. G. Egidi. Commenced No. 22.
170 Vaccine Therapy in Typhoid. A. Blocca.

169. **Strangulated Hernia.**—Operative treatment was applied in all but one of the 164 cases reviewed, the communication embracing fourteen years' work in R. Bastianelli's service at Rome. Twenty-eight of the operative cases terminated fatally, and the details are tabulated in these fatal cases for comparison. They show that even in this enlightened age many persons let an incarcerated hernia progress to the stage of gangrene before seeking a physician; in only five of the eleven patients who died within a few hours after the operation was the intestine found in a condition which would have permitted its retention. The outcome depends more on the general condition than on the condition of the intestine; the disturbances from arrested bowel functioning had brought some of the patients to the brink of the grave even when the bowel itself was not irremediably injured. The material reviewed teaches further that it is better to resect the injured tract rather than to try to get along without resection by making an artificial anus in the small intestine. Patients operated on in this way died from inanition.

The prognosis of resection depends on both the general condition and the condition of the bowel, and these do not necessarily parallel each other by any means. When resection can be done with the patient's general condition still good, the outlook is comparatively favorable. In one case it semed safe to reduce the hernia and the loop retained its vitality unimpaired but adhesions developed rapidly, kinking the gut and compelling resection the third day, which the patient was unable to survive. One patient succumbed to chloroform intoxication, manifested in jaundice and acute nephritis; another to cerebral embolism, and five to complications on the part of the respiratory organs. In this last group resection had been done in only one instance; in the others the intervention had been of the mildest character. The anesthesia had been by the spinal route in two in this group. The general anesthesia certainly contributed to the catastrophe in the others. A simple technic is advocated which can be done under local anesthesia and which has worked well in the three cases in which Egidi has applied it. The gangrenous stretch is tied off with a ligature at each end and is cut out with the actual cautery. Each stump is then turned inward and sutured and the gut beyond is brought together for an anastomosis. This technic is particularly adapted for a femoral hernia. In conclusion Egidi reiterates that he is convinced that local anesthesia answers all purposes for operating on a strangulated hernia, while general anesthesia is particularly dangerous when the system has been seriously poisoned by the effects of the obstruction in the bowel.

Tumori, Rome

III, No. 3, pp. 309-440

171 Tumor Grafting in Other Species. (Innesti eterogenei di tumori.) F. Nassetti.
172 Spontaneous Tumors in Dogs. M. Almagia.
173 Autolysates in Treatment of Cancer. (Sulla istoterapia dei tumori maligni dell'uomo.) A. Bazzocchi.
174 *Spread of Cancer of the Kidney. (Propagazioni dei tumori maligni del rene con speciale riguardo alla loro obbiettivita epatica.) V. Saviozzi.
175 Hemo-angioma of the Mammary Gland. G. Marangoni.
176 Primary Tumors of the Serous Bursae. G. Bolognesi.

174. **Involvement of Liver with Cancer of Kidney.**—When the tumor is in the upper part of the kidney it pushes the liver up as it develops, causing the liver to pivot on its transverse axis. The natural consequence is that the symptoms are generally all from the liver. In the first of the two typical cases of the kind reported by Saviozzi there was no hematuria or disturbance in urination. An exploratory laparotomy revealed the inoperable cancer, the kidney projecting like an appendix from the liver. The patient died in a few hours. The first vague disturbance in the abdomen had been noted only six months before. In the second case the patient was a man of 24 and the interval had been less than two months after the first symptoms, merely pain at times in the liver region. Then fever and chills followed. The diagnosis of echinococcus cyst of the liver seemed certain until hematuria drew attention to the kidney. On account of the resemblance to the first case the true condition was then differentiated, and the operation confirmed it in every particular. Küster has reported a similar case in which the patient died from embolism in the pulmonary artery before the operation had been concluded, and this occurred likewise in the case under discussion. The cases teach that liver symptoms in a case of primary kidney cancer seem to show that the growth is practically beyond operative relief. The pathologic anatomic details are shown in five large plates, two of them colored.

Brazil-Medico, Rio de Janeiro

December 1, XXVII, No. 45, pp. 486-497

177 Classification of Gadflies. (Sobre a systematica dos tabanideos, sub-familia tabaninae.) A. Lutz.
178 Campaign against Tuberculosis. A. Sodré.

December 8, No. 46, pp. 498-509

179 Insect Host of Trypanosoma Cruzi. (Transmissão do trypanosoma Cruzi pelo rhipicephalus sanguineus—Latr.) A. Neiva.
180 Campaign against Tuberculosis. J. V. Romeiro.
181 Instruction in Neurology and Psychiatry. (Doenças mentaes e nervosas.) H. Roxo.

Semana Medica, Buenos Aires

November 27, XX, No. 48, pp. 1237-1300

182 Aphthous Fever. R. Kraus and G. Fischer.
183 Appendicitis plus Diverticulitis. D. Del Valle.
184 Sanitation Problems and the Attempts in Various Countries to Solve Them. (Eliminacion de los productos cloacales y residuos industriales. Su depuracion biologica y quimica.) P. J. Pando. Commenced in No. 44.
185 Electrocardiography. C. A. Correas and M. Zayas.

St. Petersburger medizinische Zeitschrift

December 14, XXXVIII, No. 23, pp. 337-350. German edition.

186 Fracture and Dislocation of the Elbow. A. Hilse.

December 28, No. 24, pp. 351-369

187 Therapeutic Pneumothorax. P. Mende.
188 Alienist Testimony in the Courts. (Das psychiatrische Gutachten vor Gericht.) H. Hildebrand.

Ugeskrift for Læger, Copenhagen

November 20, LXXV, No. 47, pp. 1847-1874

189 *Epinephrin Treatment of Asthma. (Adrenalinbehandling ved Asthma bronchiale.) E. Meulengracht.

189. **Epinephrin in Asthma.**—Meulengracht states that in five cases he injected 0.0005 gm. of epinephrin subcutaneously for the relief of asthma, that is, half a Pravaz syringe of the ordinary 1:1,000 solution, and found it far more effectual than any other measure he has ever used for the purpose. One patient was given 1,500 of these injections in the course of nine months. According to his experience there is no cumulative action and the system does not become accustomed to the epinephrin; it seemed as effectual each time as at first, but it does not seem to have any effect in eradicating the tendency to asthma. This did not appear to be modified in any instance, notwithstanding the prompt and constant symptomatic benefit each time. The effect is more pronounced the earlier the epinephrin is used in the attack. Local application and inhalation of epinephrin spray also proved useful but were far less effectual than the subcutaneous injection. His patients were between 31 and 59 and were all in the hospital for other causes except the one who received the record number of injections, who was bedridden most of the time from her subintrant asthma.